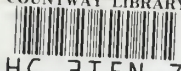
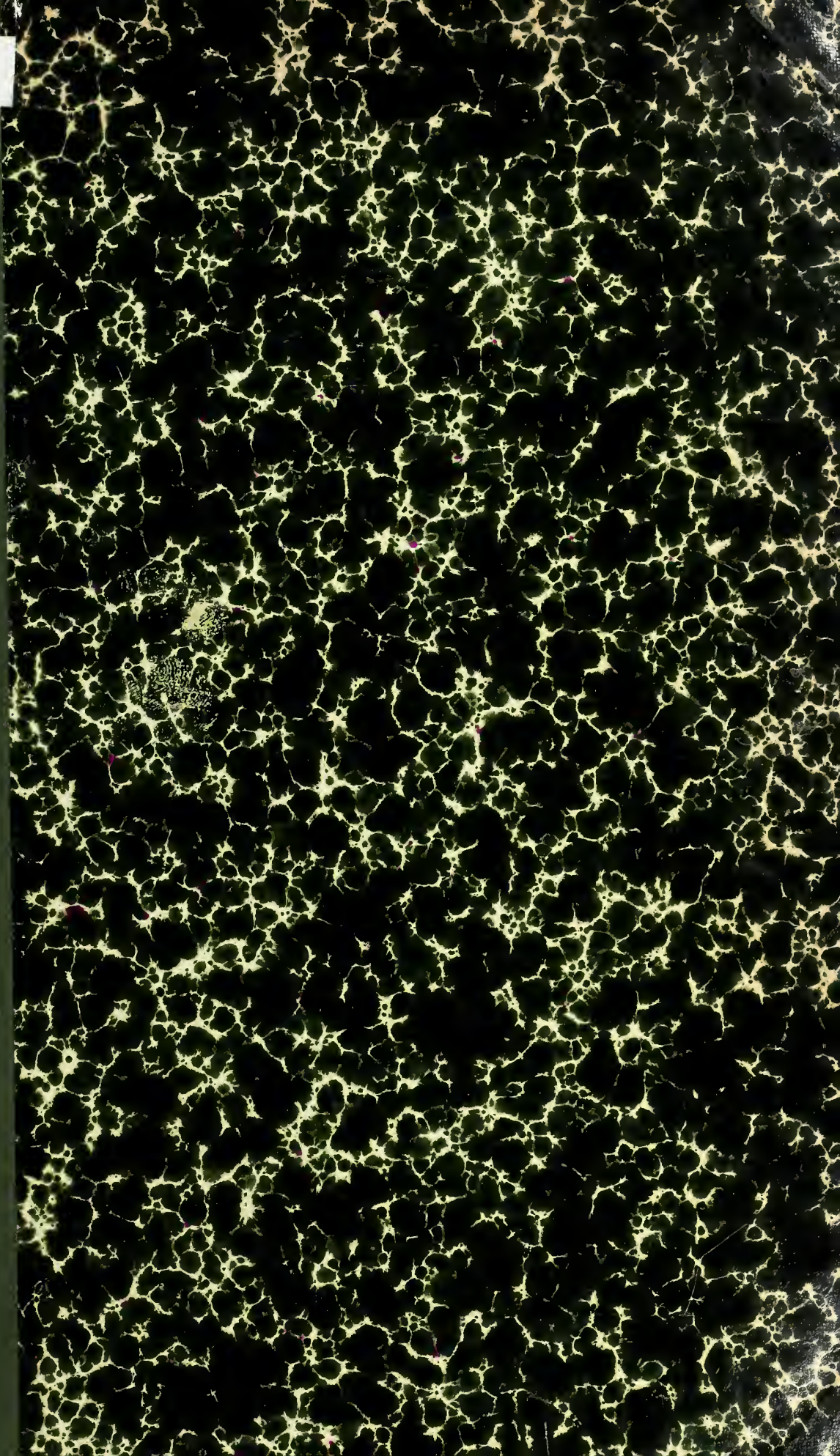


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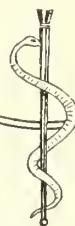
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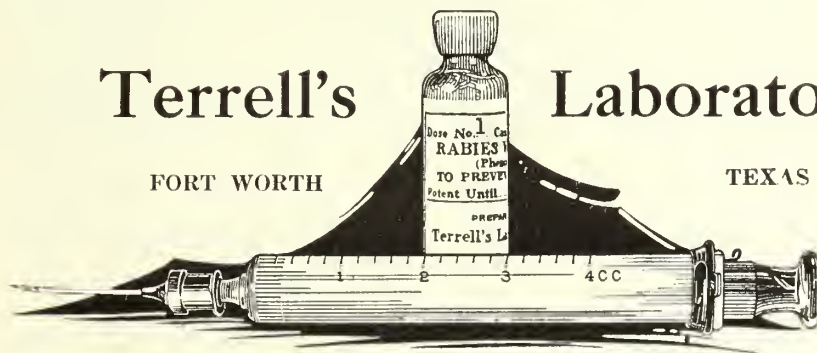
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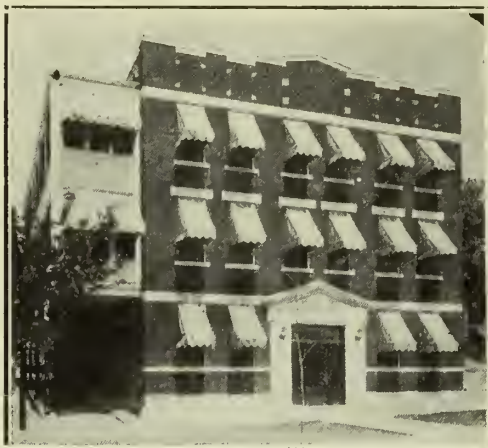


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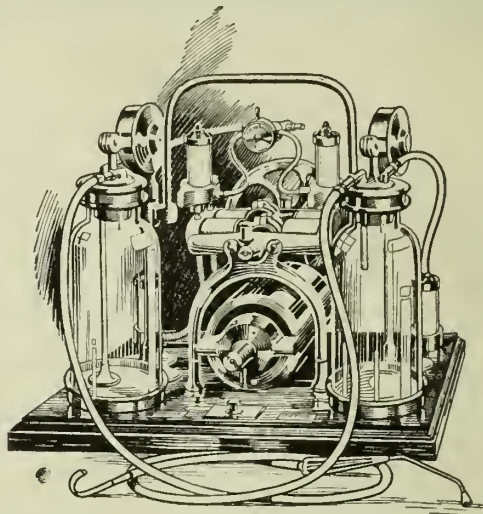
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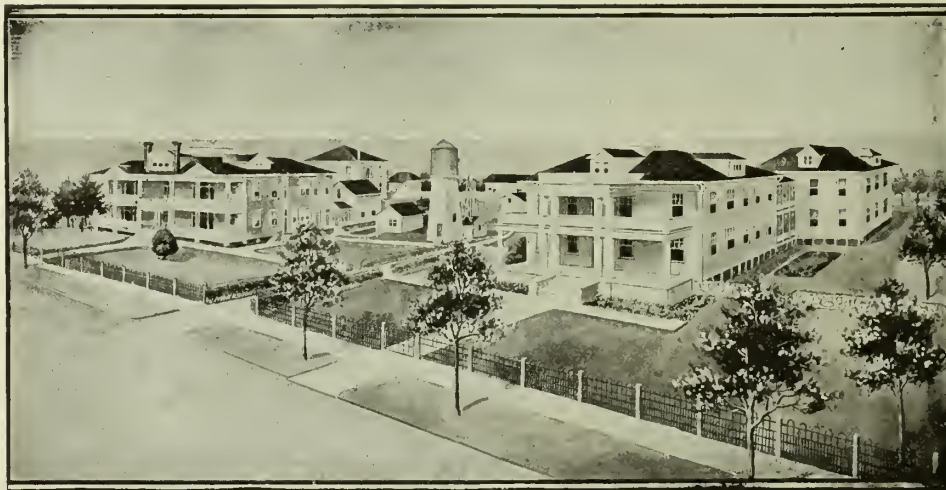
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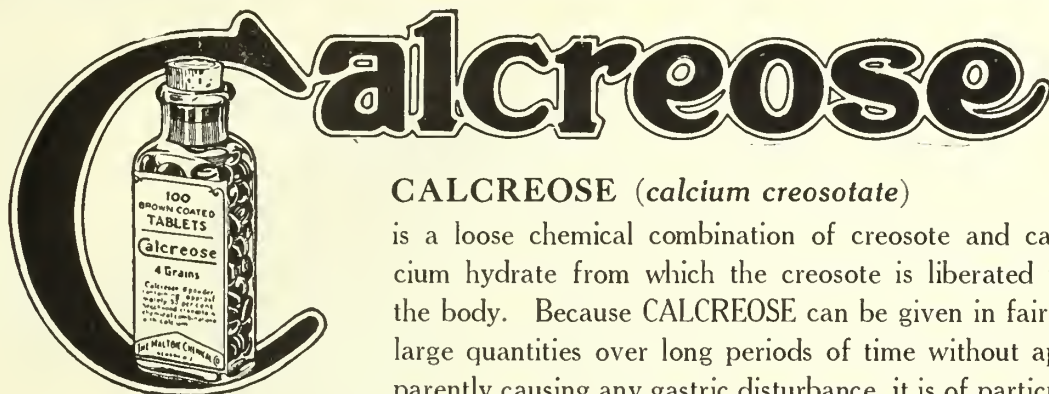
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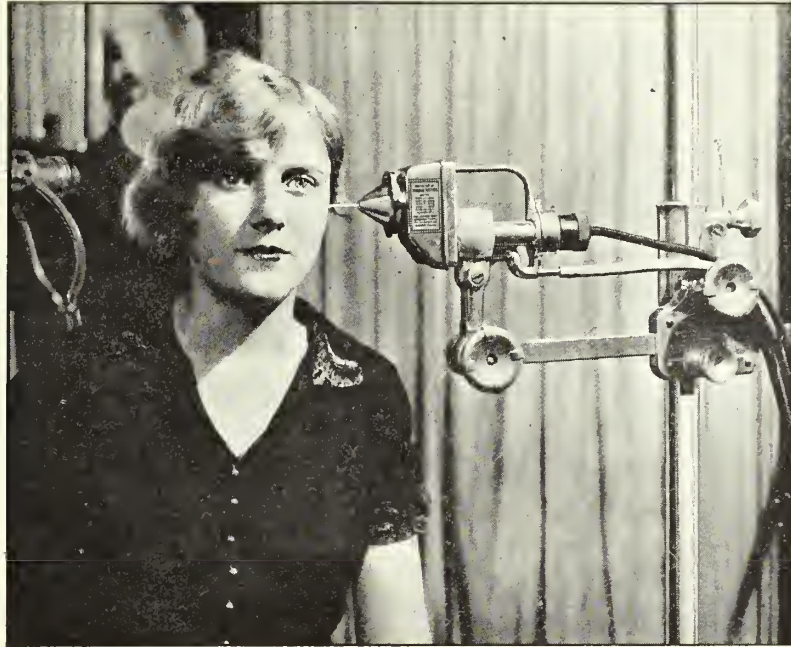
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VOLUME XIX

MUSKOGEE, OKLA., JANUARY, 1926

NUMBER 1

CESAREAN SECTION*

W. A. FOWLER, M.D.
OKLAHOMA CITY

Williams of Johns Hopkins, known as a very conservative man, estimates the average mortality from cesarean section for the United States at about 10 per cent. The committee on maternal and infant welfare of the Massachusetts Medical Society in an attempt to ascertain why the mortality from childbirth was greater in 1920 than ten years previously, found that one sixth of the entire mortality was due to cesarean section, one-half of these being due to sepsis. Properly selected cases in the hands of skilled operators should have a mortality of not more than 2 per cent.

Notwithstanding the voluminous literature on this subject, in view of the great difference in the results obtained, a discussion by this section of cases which ought to have a cesarean section, the preliminary management of cases that might need section, and the technic of the operation seems appropriate at this time.

INDICATIONS.

In a general way it may be stated that cesarean section should be done in any case in which the operation itself and the resultant scar in the uterus offer less danger than delivery through the pelvis. It should be remembered, however, that generations of experience have rendered the woman less susceptible to harm from natural labor than from any other method of delivery and delivery through the pelvis even with moderate difficulty is safer than any form of cesarean section. The indications for the operation have been greatly abused. It has been done for such reasons as abnormal presentation or position, of relatively little importance, as, for instance, a breech with a normal pelvis. One writer lists among the indications in his cases, *by request*.

Contracted pelvis is the most frequent indication for the operation. The cases of contraction to such a marked degree that delivery of the child through the pelvis would be impossible even after a destructive operation (true conjugate 5 cm, and less, as usually given) and of lesser degrees of contraction in which delivery of a living child would be impossible (true conjugate 5.5 cm. to 7.5) are so evident that a failure to recognize them would indicate the grossest carelessness. Between these cases and the normal are found the cases of border-line contraction which offer as great difficulties as anything in the realm of medicine or surgery. With particular pains and careful study however, mistakes will not often be made. Every doctor who does obstetrics should familiarize himself with the use of the pelvimeter and use it in his practice. The scope of this paper will not permit a detailed discussion of the subjects of pelvimetry and contracted pelvis. One should not forget however, that pelvic sufficiency depends quite as much upon the size and mouldability of the head as upon the size of the pelvis. In a particular case there is no pelvimeter so good as the fetal head and no fetometer so good as the maternal pelvis. In other words, there is no sign of disproportion so valuable as the unengaged and unengagable head and although a comparatively small percentage of such cases will come to section, every such case should be treated as a case in which a cesarean section may be indicated to affect delivery, the only exceptions being those cases in which unengagement is due solely to some other cause, such as a face or brow presentation with a large pelvis. Engagement can usually be determined easily and with a reasonable degree of certainty. The head which can be pushed about above the pelvic brim, the floating head, is obviously not engaged. When the head is fixed it is not so easy to know whether or not engagement has taken place. The fetal shoulder should be palpated and the distance from the shoulder to the pelvic brim measured. If this distance is greater than 7cm, the head is pretty cer-

*Read before the Section on Obstetrics and Pediatrics, Annual Meeting, Oklahoma State Medical Association, Tulsa, May 12, 13, 14, 1925.

tainly not engaged while a measurement of less than 7cm. indicates that complete engagement has probably taken place. The older rule of palpating the lowest part of the head with reference to the spines of the ischia is a good one. If the head has advanced to the level of the spines or lower, engagement may usually be assumed. This information may be elicited by rectal examination. It is possible in some cases for a large head to be moulded down into the pelvis beyond the level of the spines before its largest diameter has passed the brim. If in doubt, it is better to assume unengagement. Engagability is determined by pressing down on the fundus toward the pelvis with one hand while the other hand palpates the fetal shoulder and head with reference to the pelvic brim. If the head goes down into the pelvis, the shoulder approaching within less than 7 cm. of the brim, or if the anterior portion of the head can be pushed backward further than the posterior surface of the symphysis, engagability may be considered as assured. When the head is not engaged or engagable the likelihood of engagement as a result of a test of labor will depend upon the degree of the disproportion and the mouldability of the head, the latter factor being impossible to determine with any degree of accuracy. Seventy-five or 80 per cent of all cases of contracted pelvis will terminate in spontaneous labor if given the test of labor and a large majority of the remainder will require only the less serious operative procedures, most often low or medium forceps. Except in the cases of disproportion so marked as to make engagement unlikely, abundant clinical experience has demonstrated that these cases should be given the test of labor before section is advised. The management of the case during the test of labor has a very important bearing upon the mortality and morbidity results in both section and other cases. These labors will usually be longer and more difficult than the average. The patient should be given plenty of water, and every four hours in the first stage, liquid nourishment. She should be assured plenty of rest and sleep by the administration of morphine. It will rarely be necessary to give more than one-eighth grain every four hours to accomplish this end. She should be most carefully guarded against the danger of infection. In these cases, the dictum, "No engagement, no vaginal examination," should be strictly adhered to except in rare and unusual cases and then only after carefully

weighing the possible advantage to be gained against the objection to even the most careful vaginal examination. Effort should be directed to preserving the membranes intact by having the patient rest quietly, usually in bed, and refrain from bearing down. When this general management is carried out it will usually not be necessary to interfere before the completion of the test of labor and in those cases in which operative interference becomes necessary the patient will be in good condition. The mother's temperature and pulse should be taken every one to four hours, the pains carefully timed and the fetal heart tones observed. The test of labor for engagement is usually considered the first stage and about two hours of second stage pains of good character. If during this time the head becomes engaged, except rarely in case of funnel pelvis, the question of cesarean section should be dismissed. At the completion of this test, or if conditions should demand operative interference sooner, the head being unengaged, cesarean section is generally considered the procedure to be followed. There is no place for manual dilatation of the cervix, high forceps or version in the proper treatment of these cases.

The early referring for hospital and expert care of cases of markedly contracted pelvis and those with a history of previous difficult and tragic labors and the management of the more favorable border line cases according to the plan outlined above would constitute an obstetrical utopia so far as contracted pelvis are concerned. These patients would then come to the specialist or he to them in all cases where serious operative interference is indicated without the serious compromise of their prospects for life and good health by exhaustion, trauma and infection as is too often seen in differently managed patients, and the general practitioner would avoid the opprobrium he must bear in the tragic cases,

For good reasons or bad there are often cases in which these ideals are not present. Patients who have had a vaginal examination or minor obstetrical procedures carried out are less favorable cases than others but may still have section provided a careful technic has been used. Patients who are presumably infected who have had repeated vaginal examinations or efforts at delivery or who have such conditions as foul discharge, redness or

tenderness about genitalia, or more than only a slight elevation of temperature and pulse should not be subjected to the hazard of any form of cesarean section except in unusual cases such as, for instance, probably the only prospect for a child when one is greatly desired, the patient desiring to assume the risk. It is in such cases as these infected patients and where there is likelihood of serious injury to the baby, in which cesarean section is contra-indicated, that high forceps or version may be tried. The operator who performs cesarean section in infected cases will come to grief. Even in the hands of Asa B. Davis at the New York Lying-In Hospital, these cases had a maternal mortality of over 7 per cent and a fetal mortality of 25 per cent after extraperitoneal section. In such cases craniotomy even on the living child if necessary is indicated if reasonable attempt at high forceps or version does not affect delivery. These operations may be looked upon in such cases as last efforts to save the baby's life before craniotomy. Great care must be taken not to do irreparable damage to the mother in their performance.

Cesarean section should not be done if the baby is dead unless the contraction is too great to permit delivery even after craniotomy.

Eclampsia is not an indication for the operation.

Cesarean section is indicated in some cases of placenta previa particularly the complete variety and those cases in primiparas with thick rigid cervixes. I am of the opinion that many cases of placenta previa should be delivered by section provided the conditions present are favorable. Tumors obstructing delivery also constitute an indication for the operation when they are of such a nature that the pains of labor and favorable posture will not result in their being drawn up out of the pelvis.

In older primiparas or patients long married without children a much more liberal interpretation of indications should be practiced.

While I have attempted to make the indications for this operation and the management of cases prior to the time of operation as definite as possible there are few conditions that require more individualization and broader obstetrical under-

standing and judgment for their best management than these cases.

TECHNIC

The classical operation is the operation most frequently performed in clean selected cases. The low incision is usually preferred, the incision of the abdominal wall being entirely below the umbilicus, and the incision in the uterus as low down as is possible without injuring the bladder or disturbing its relation to the lower uterine segment. Recently, the transperitoneal low operation, similar to that described by Beck and particularly as modified and described more recently by De Lee has been gaining in favor. De Lee reports 353 operations with this technic with only two maternal deaths. A detailed description of this technic may be found in De Lee's article in the *Journal of the American Medical Association*, March 14th, 1925, and the technic for local anaesthesia in this operation, as used by De Lee in the February, 1925, number of *Surgery, Gynecology, and Obstetrics*. I have assisted in one case in which this operation was performed under local anaesthesia with very satisfactory results. The operation requires about thirty minutes more time (a point of less importance when the local anaesthetic is used) and is technically somewhat more difficult than classical section but should not be considered too difficult by any man qualified to do major obstetrical surgery. In favor of the low operation it is argued with good logic that the diminished vascularity of the lower segment and the less frequent necessity of going through the site of placental attachment makes excessive loss of blood less likely; that, the incision being in the quiescent rather than in the contractile portion of the uterus, proper healing is more likely to occur resulting in less danger from infection, adhesions, and a weak scar, and that in cases in which infection of the uterine incision does occur drainage is more likely to occur into the uterine cavity and general peritonitis is less likely. I believe an important advantage is the fact that it lessens the danger of the spill into the abdominal cavity and of peritoneal damage with all the evil results that entails. In the low operation whether the classical or the transperitoneal, it is not unusual that we do not so much as see the gut.

A few points in the technic would seem worthy of special emphasis. Before making the incision into the uterus a long

sponge is placed between the uterus and the abdominal wall to lessen the danger of intraperitoneal spill of blood and amniotic fluid. It should be remembered that the liquor amnii which is a good culture medium frequently becomes infected within a few hours following rupture of the membranes and that the cervical mucus which adheres to the membrane is sterile in only about 50 per cent of cases. The peritoneal trauma incident to the removal of the abdominal spill may be even more harmful than the spill itself. In introducing the pack to prevent this the abdominal wall should be gently lifted up and the sponge placed between with as little irritation of the peritoneum as possible. De Lee says, "Gentleness, gentleness, and again and again gentle handling is the keynote." And this applies to cases with general anaesthesia as well as to those with local. With an Allis forceps grasping the upper end of the uterine incision, the uterus may be held against the abdominal wall to aid in the protection of the abdominal cavity. Excessive bleeding from the uterine sinuses should be controlled by grasping with intestinal or placental forceps.

In view of the frequent bacterial invasion of the uterine cavity during the puerperium and that bacterial invasion may travel along the line of a suture going into the uterine cavity, care should be taken that the first row of sutures go only down to and not through the endometrium.

The post operative management is of as great importance and is along the same general lines as in other abdominal surgery.

I have done the operation of cesarean section twenty times. The indications were: Placenta previa, 2 cases; sarcoma of the uterus, obstructing delivery, 1 case; granuloma inguinale, 1 case; contracted pelvis, 16 cases. Of the cases of contracted pelvis, two were associated with threatened eclampsia and one with eclampsia, one was a mild cardio-nephritic. The patient with a sarcoma of the uterus had pulmonary and general sarcomatosis with high fever, chills, sweats, and emaciation before operation. She died during the puerperium. There were no other maternal deaths. Except this case and the case of granuloma inguinale which was also fibrile before operation only one patient had a post operative temperature as high as 101.6, or a temperature as high as 100 for three days. This case was my second sec-

tion. She had a very high temperature and pulse with pronounced ileus which subsided in about a week. Due to faulty technique there was a considerable spill of blood and amniotic fluid into the abdominal cavity. As a result of this and the sponging to remove it, unnecessary, unwise and almost fatal damage to the peritoneum resulted. Another case had separation of the abdominal wound.

SUMMARY

(1) Cesarean section as generally performed is accompanied by a mortality of about 10 per cent.

(2) Contracted pelvis is the most frequent indication for the operation.

a. The cases of more pronounced degree of contraction should have elective cesarean section, without the test of labor.

b. Border-line cases should be given the test of labor *without vaginal examination* and with careful attention to the general condition of the patient. Should the condition of the patient demand interference before engagement or the test of labor not affect engagement cesarean section should be done.

c. In infected cases version, if the head is floating, or high forceps, if the head is fixed, used judiciously, and followed, if necessary, by perforation, should be used rather than section.

(3) The low operation is to be preferred, the transperitoneal operation being used at least in suspicious cases, unless hysterectomy is done.

During the operation, great care should be exercised to *save blood and avoid peritoneal trauma*.

MANAGEMENT OF PUERPERAL SEPSIS*

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Puerperal sepsis is a complication following child birth that we all fear, and it will give any conscientious doctor some uneasy hours when he should be peacefully sleeping.

I will not deal with the etiology nor touch upon the important subjects of prophylax-

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is, but will confine my remarks to the treatment of the condition.

The last fifty years has seen a marked decrease in the number of cases, and a marked decrease in the deaths from puerperal sepsis. This decrease has been due in the most part to prophylactic measures. But much good has come from our better understanding of these cases.

When I began the practice of medicine, the routine treatment of this condition was to clean out the uterus at once, and to keep it clean by the use of the inter-uterine douche, and keep the bowels open by cathartics. We now know this is entirely wrong, but it has been so thoroughly taught, that it is hard for all of the profession to get away from the practice. It is to emphasize the importance of getting away from this vicious treatment that I am reading this paper.

Pathological research has shown that the gentlest of inter-uterian instrumentation may break down the protecting wall of leucocytes, and allow the infection to spread to the deeper tissues. It has been shown that even increased peristalsis may do this. Remember in these cases, you have a natural drainage track through the uterian os, and the vagina, and as long as the infection is confined to the endometrium, there is ample drainage.

To confine the infection to the uterus, it is imperative that the uterian contractions be abolished as much as possible. If this is done, nature will take care of most of these infections.

The splinting of the uterus and the bowels is *the* important thing to accomplish. The patient must be placed at absolute rest, uterine contractions and peristalsis quieted as much as possible by splinting the abdomen with morphine. Daily flushing of the lower bowels with plain water enema will keep the colon empty and help to keep up the water content of the body. Use enough morphine to keep the patient comfortable, plenty of fluids, and light, but nutritious diet.

Never give one of these patients a dose of any kind of physic or cathartic. Remember in these conditions physics will not remove the gas from the bowels, but will tend to increase distention. If the infection goes beyond the uterus and an abscess, or abscesses, form, it will tend to localize and can be drained through the vagina or approached super-pubically, after

the body has developed enough anti-bodies to protect it against the offending infection.

Let me emphasize again the important points in the treatment of this condition. First: Hands off! No inter-uterine nor uterine manipulation. In these cases the curret, the inter-uterine douche, the dilator, vulsellum, and the uterian sound should be thrown away. Even bimanual examination should be the gentlest, if at all. This is the one condition where physics of all kinds are to be avoided. Put the patient at absolute rest, splint the abdomen with morphine, use plain water enema daily, give plenty fluids.

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THE USE OF NITROUS OXIDE AND OXYGEN IN OBSTETRICS IN THE HOME*

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The use of nitrous oxide and oxygen for anesthesia and analgesia is too well established to call for any extended discussion as to its safety, except to quote from Davis¹ of Chicago, who states that the comparative safety of twilight-sleep is 1-250, chloroform 1-3000, ether 1-30000, and nitrous oxide 1-50000. While the last named agent has long been used in hospitals for analgesia in obstetrics, the purpose of this paper is to call your attention to the feasibility and practicability of its use in the average home. Hirst² states "its greatest disadvantages are that an expensive apparatus is required and that it should be administered by an expert who devotes his whole time and attention to that one purpose." Williams³ says, "I believe that the method will necessarily be restricted to hospital use and to practice among the well to do, as the actual cost of the gas, the transportation of the more or less cumbersome apparatus, and the necessity of a trained assistant to manipulate it, place it beyond the means of the ordinary patient with whom chloroform or ether will retain their pre-eminence," De Lee⁴ says "it may be given earlier than ether or chloroform, near the end of the first stage, and throughout the second. If the first stage is prolonged morphin is preferred, with bromides per rectum, or scopolamin.

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There are no contra-indications to its use. Objections to the use of nitrous oxide and oxygen on the ground of expense and cumbrousness must be removed by technic." Shears¹ says "while the services of a skilled anesthetist are preferable, many of the machines now on the market are so constructed as to render the anesthetist unnecessary."

The writer has used nitrous oxide and oxygen during the past two years in 77 cases, 47 of them primiparas for an average period of 3 hours, the longest for 7 hours; 30 multiparas for an average of one and one-half hours, all of them in the home, very few with a trained nurse and most of them amidst the very plainest surroundings, without expert assistants and with very gratifying results. The machine used is the "Baby Clark", the most simple and least expensive on the market. It is possible with this apparatus to give a mixture of nitrous oxide and oxygen in definite proportions or either of the gases alone. One hundred gallon tanks are used and the outfit is carried to the bedside. There are several other portable machines on the market as the "Junior Heidbrink" and the "McKesson Junior", both of which have certain refinements and while easily portable are somewhat more expensive. The cost of the machines without tanks varies from \$75.00 to \$150.00. The nitrous oxide tank filled is \$9.00 and the oxygen tank \$8.00. The empty tanks can be returned for a credit of \$6.00 each. Two tanks of each should be on hand at all times so that one has approximately \$105.00 to \$180.00 invested. After the initial investment however, the cost is not excessive as it is surprising how long one may use gas from one tank; intermittently; a period of from 5 to 7 hours has been recorded.

There is an added expense in using gas and it does require time, thought, and an appreciable amount of training to carry out this procedure. With your utility bag, your obstetric grip, your gas apparatus and tanks it seems like a considerable amount of equipment to carry to the bedside. However, in the vast majority of cases in which this method is used, the results fully justify this preparation both to the mother and to the physician. At first gas was used only in those cases which desired it and were willing and able to pay for the added expense, but now it is considered a part of the obstetric out-

fit and is used in all but the very short labors. It is especially appreciated by those mothers who have had one or more children without it.

The gas is begun when there is two or three fingers dilation. Generally morphine hypodermically has been given previously, especially in the primipara. The face piece is applied and the patient instructed in the method of its use. The nitrous oxide bag is allowed to fill to about two-thirds of its capacity. Usually there is no oxygen given. Just at the beginning of the pain or a few seconds before, the patient is instructed to exhale then to take three or four normal inhalations of gas, holding the last breath for a few moments. When it is desirable to bring the voluntary forces into use she is instructed to bear down after the last inhalation. She is told to relax and rest between pains, but to indicate the instant before another pain begins, when the procedure is repeated. The number of breaths during each contraction of the uterus is governed by the effect produced, three to five inhalations are usually sufficient. The desired effect is not anesthesia but analgesia. The face mask can be manipulated easily with one hand and as labor progresses, the husband or one of the many neighbors can be instructed to give the gas so that at the actual time of delivery the physician may put on his sterile rubber gloves and maintain strict asepsis. With the automatic feed attachment the mother can readily give the gas to herself. There can be no danger, for between pains the patient is breathing ordinary air, she is perfectly conscious, under complete control and the analgesia may be carried to such a point that those in the next room do not know when delivery takes place. Should the baby be at all cyanotic, which does not occur with any more frequency than with ether or chloroform, the mother may inhale pure oxygen before the cord is severed, thus supplying an added amount of oxygen to the blood. Ether may be given near the close of the second stage if thought advisable, but lacerations are not more frequent with the use of gas. If ether or chloroform is given during the latter part of the first stage and throughout the second stage, labor is indefinitely prolonged, and the patient is groggy, whereas gas, not having any effect on uterine contractions, may actually hasten labor by increasing the co-operation of the mother.

Nitrous oxide and ether cannot be compared. There are separate indications for

their uses. We are all familiar with those slow prolonged labors in which the patient is never quiet, but threshes about, crying out and using up her reserve strength. The use of gas quiets them, allows relaxation between pains, relieves them of the fear of the next pain and definitely reduces shock. After delivery her mind is clear, there is no nausea and her condition is far better than when ether or chloroform is given to the same analgesic degree. There is no tendency to post-partum hemorrhage and if a slight laceration requires repair, the help usually available can administer the gas as easily as ether. Should there be any cyanosis, it can be detected at the vulva and the mask removed, allowing the patient to breathe fresh air. The repair of extended lacerations without a physician or nurse trained in the use of gas, however, is not recommended.

The fact is recognized that gas given by the attending obstetrician or unskilled assistant is not ideal, but neither is delivery in the average home ideal, and it is maintained that with thoughtful preparation, and with the portable, inexpensive outfits now available, the use of gas is eminently practical and feasible in the average obstetric case in the home.

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SKIN TRANSPLANTATION*

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Transplantation of skin or skin grafting, is one of the oldest procedures in surgery. Centuries ago, the tilemaker's caste of India reconstructed noses by bringing skin down from the forehead. For this reason, transplantation of skin by turning on a pedicle, became known as the Indian method. In 1597, Gaspar Tagliacozzi described a method of rhinoplasty by taking skin from the forearm. Consequently, skin taken from a distance on a pedicle, and used to close a defect, is known as the Italian method.

There are three great division of skin grafting: auto, from the same host; homo, or iso, from another individual of like species. Heterografting, from unlike species, to be mentioned only to be dismissed as utterly impractical and without sane foundation. The transplantation of frog skin, pig skin, placental membrane, etc., we can say have been universally a failure.

Homografting, or grafting from individuals of like species, has been a source of very great disappointment. Some years ago, Mason of the Mayo Clinic published a paper in the *Journal of the American Medical Association*, claiming successes when individuals of identical blood grouping were used. He, however, cited no cases, was most indefinite in his report and ended by admitting that autografting was the one method of choice. Holman, in an article in *Surgery, Gynecology and Obstetrics*, states that he believes that homografts exist only in fable and not in fact. Loxor goes so far as to state that successes in iso-grafting may be relegated to mythology. McWilliams feels that many of the so-called successes in this field may be explained by the epithelium creeping under the grafts from the edge of the wound. He states further that he is compelled to maintain that all skin grafts should be autogenous and that it would be an error to take skin from another individual.

Methods of transplanting skin may be grouped under four headings. First, are thin epithelial grafts, known as Thiersch grafts; second, small full skin or pinch grafts, known as Reverdins; third, full thickness, free grafts, known as Wolfe grafts; fourth, pedicle grafts, which may be either by the French method, the Indian method or the Italian method.

THIERSCH, OR EPITHELIAL GRAFTS

In preparation, the wound must be clean and free from infection, and the granulating area smooth and not too highly raised. If the wound be infected, it should be treated with the chlorinated solutions until the bacterial count is practically negative. In the same way we must assure ourselves that the patient has a negative Wassermann and that he is physically in good condition. If the granulated area is irregular and raised, the granulations should be shaved off with a flat knife, and hot gauze applied until all oozing has ceased.

To obtain the grafts, we use an ordinary razor which has been previously honed and stropped. If possible, we obtain the skin

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from the inside of the thigh, it having been prepared by a thorough cleansing with soap and water, and an alcohol dressing applied the night before. No other preparation is made the morning of the operation. The skin is stretched between two flat boards, wet with saline, and the graft is cut as thin and large as is possible. The graft is placed directly upon the denuded area, without immersing in salt water, and teased into position with blunt probes. We believe the grafts grow better if the normal serum is allowed to come in contact with the wound, consequently we do not immerse our grafts in saline.

After the entire area has been covered with grafts, overlapping if necessary, alternate strips of gutta-percha tissue are

to line cavities and it was called the Esser Inlay. Later Gillies of the Australian Army, used epithelial grafts wrapped around stents to repair facial defects and to deepen or make eye sockets. This method became known as the Gillies Outlay. The inlay or outlay methods have justifiably become very popular and I use them quite extensively in the repair of ectropion and in repair of contractures of fingers.

SECOND METHOD, REVERDINS OR PINCH GRAFTS

This method has but a limited scope of use, as I cannot see its advantage over Thiersch grafting, and feel, except in selected instances, it is very much inferior, both in appearance and because of the

1. THIERSCH GRAFT.



1. SHOWS FOOT FOLLOWING SEVERE INJURY WITH EXTENSIVE LOSS OF TISSUE.



2. SHOWS FOOT WITH AN ALMOST NORMAL LOOKING SKIN FOLLOWING THIERSCH GRAFT.

placed over the grafts. We then cover this with three layers of gauze saturated with mercurochrome. This dressing is held in place with forms which have been made previously of dental mold, or by firmly anchoring with adhesive and bandages. This should remain undisturbed for at least five days, preferably seven. If the discharge become foul in odor, or copious, we pour mercurochrome directly in the wound.

It is often necessary to use epithelial grafts to line cavities or to close small defects as in the repair of ectropion of the upper or lower lids. Esser of Holland devised a method of wrapping the graft around a stent and placing this firmly in the defect, everting the skin at the edges of the defect. He used this method mainly

cicatricial tissue which grows in between each graft.

THIRD, WOLFE OR DERMIC METHOD

This is the ideal type of skin grafting, and were it possible to obtain universal success, the whole problem would be settled. With care and very accurate technique, men such as Gillies and Blair report seventy-five per cent success with this method. I personally have been very successful since following a new type of technique. This graft contains all the layers of the skin except the fat. It must be entirely free from fat, must be cut a little smaller than the area we wish to cover, must be sewed lightly in place with small sharp needles, and pressed firmly in the bed made for it. It takes best in areas

where we can offer fairly even counter pressure. Before placing these grafts, we must be certain that the defective area is dry and sterile. There can be no elevated granulations or bleeding points. The mar-

with interrupted sutures, using a very sharp fine needle, stretching the graft so as to open the lymph spaces. I then cover this with three or four layers of gauze, which have been saturated in mercurio-

2. FULL THICKNESS GRAFT.



1. SHOWS HEEL TORN OFF BY MOWER.



2. SHOWS HEEL FOLLOWING FULL THICKNESS OR WOLFE GRAFT.

gins of the skin must be in good condition. The area to be covered is measured with a wax mold. This mold is then placed upon the site from which the graft is to be taken. The skin is outlined just a little smaller than the mold, and the graft is cut with a razor or a very sharp knife.

chrome. Next I place over the gauze a well fitting piece of sea sponge, as per Blair; bandage accurately and evenly so as to cause firm, even pressure and fix with adhesive to prevent shifting. This dressing is allowed to remain untouched for at least three or four days, when we carefully lift

3. INDIAN METHOD OF SKIN GRAFT.



1. SHOWS LOSS OF COLUMELLA.



2. WITH PEDICLED TUBED FLAP FROM FOREHEAD SUTURED INTO SEPTUM.

This graft, if larger than two or three inches in diameter, should have holes punched in it with a Davis punch. It is then caught with very fine tissue forceps and the four corners are sewed in position. The edges of the graft are sutured

away this sea sponge and soak the gauze off with mercuriochrome. If the graft is blue at any point, small incisions are made in the blue area with a very sharp knife, as all grafts die much more readily from venous stagnation than from lack of arter-

ial blood. No attempt should be made to massage these grafts, we are never certain that the graft will take perfectly until about three weeks have elapsed. This type of skin transplantation is ideal, and offers broad possibilities, as we obtain a soft, scarless surface.

Dermic grafts are also used as inlay or outlay grafts, being fitted on a stent in much the same manner as epithelial grafts. They are used especially when we wish to be very certain that further contracture will not occur. In contracted figures I have used six or seven full thickness grafts set in with a stent and have had most excellent results.

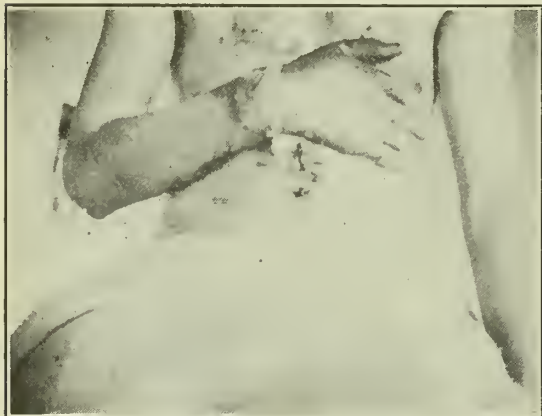
FOURTH METHOD OF SKIN TRANSPLANTATION, OR SHIFTING ON PEDICLE

This is the ideal way to obtain full thickness, smooth, normal appearing skin to cover defects in a very certain and definite

and at the same time, educates it to live on a smaller blood supply. The flap may be lifted and returned to its original bed several times before it is ready for shifting. In one case, in which I repaired a defect in the palate with a flap from the skin of the neck, the flap was raised and replaced in its original bed six times before I was certain it would live folded on itself. After the flap is sewed into the defect, the pedicle is not cut for twenty days.

Gillies has also shown a very successful method, which is called the Tube method. He measures out and then elevates the flap allowing both ends to be attached, then turns the skin in on itself so to speak, tubing it. One end is gradually compressed, until the entire flap is supplied with sufficient nourishment from the other end. The compressed end is then severed, the tube opened up, the flap trimmed to fit and sewed into the defect. The flap is al-

4. ITALIAN METHOD OF SKIN GRAFT.



1. SHOWS HAND SUTURED TO ABDOMEN TO OBTAIN FLAP TO RECONSTRUCT PALM.



2. SHOWS RESULT, WITH A SMOOTH EVEN FLAP ON PALM WITH ALL EXCESSIVE FAT REMOVED.

manner. The limitations of this paper prevent any extensive description of the various means we can employ. Briefly the first, or French method, consists simply of sliding the skin laterally, or up and down, without the use of the pedicle. The second, or Indian method, consists of shifting the skin from one position to another, maintaining its viability through a long or short pedicle, the blood supply of this pedicle maintaining the life of the entire flap. In order to insure the life of this flap, Blair of St. Louis advocates lifting the flap and replacing it in its original bed. By this means he tests the viability of the flap,

lowed to remain for two or three weeks, the unused end remaining tubed. At the end of that time enough of the flap is cut off to easily fill the defect; the rest of the tube is opened up and sewed back into its original position. By this means we can use a graft from a very long distance away and then replace the unused portion leaving very little disfigurement. I am at present making the columella of a nose from a tube flap from the forehead. By the Italian method of the transplantation, we can transplant skin from different parts of the body, using any modification of any

of the above procedures, employing several stages if necessary.

In conclusion I wish to say that success in skin transplantation is assured if the fundamental rules are followed, if we do not get infection, and if we dismiss as impractical all other methods except transplantation of skin from the same host.

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INFLAMMATORY BONE TROUBLE*

A. V. EMERSON, M.D.
TULSA

In reviewing the literature on inflammatory bone lesions, one is impressed with the fact that the ingenuity of the medical profession is still greatly taxed in combating these great crippling diseases, irrespective of the teaching of the Great War and voluminous contributions to the current literature.

This is not a record of cases or statistics, but a general review of some of the important phases which every surgeon realizes are not under our control sufficiently that we can meet them with confidence and satisfaction. In consideration of this subject, one must ever recall histological and anatomical facts.

There are two elements in children we do not have in adults, namely an abundance of cartilage and the epiphyseal line. Lexter has shown with radiograms that with the exception of the circumferential lamellæ, the shaft is almost entirely supplied by the nutrient artery. The epiphysis and neighboring portion of the metaphysis receive an abundant blood supply from the metaphyseal arteries. Between these two arterial supplies is an area more or less avascular. It is at this avascular area where stasis is the greatest, that the primary focus in acute osteomyelitis occurs as a rule. Another site is where the periosteal vessels enter the cortex as here the blood vessels are very small and the blood current very sluggish.

Of the bony lesions only, that subdivision covering the changes due to pathogenic organisms will be considered. Of the various types of osteomyelitis the pyogenic type is of the most interesting to this section, though syphilitic, tubercular and actinomycosis will be considered. Staphy-

lococci and streptococci are the predominant organisms causing osteomyelitis, though almost any organism may be found.

Trauma predisposes the location of the bacterial emboli and the periosteum over the involved region is hyperaemic, pinkish and oedematous. No pitting as in soft tissue. On incising the periosteum and peeling it off the cortex, one will notice bleeding is more evident than in the normal condition, because these minute blood vessels are engorged trying to carry an extra amount of blood to the injured area. Congestion will be noticed in the cortex and medulla centering around the focus of infection. Fatty tissue has a melted appearance and oil may be seen oozing from the marrow spaces. No pus is found however, and it is at this stage of the process that surgery accomplishes so much by checking the infection, thus preventing medullary and cortical necrosis. You may find pus any time after twelve hours.

The epiphysis becomes involved in twelve to fifteen per cent of the pyogenic cases and occurs between the second to the seventh day of the disease. In the growing child the growth of bone is thereby interfered with or arrested, especially if actual separation of the epiphysis has occurred. However, the epiphysis acts as a barrier to the extension of the process to the joints and the close adherency of the periosteum at the epiphysial lines checks the extension of the subperiosteal suppuration toward the joints. The joint, in close proximity to the infected area, may become distended by a protecting outpouring of lymph from the synovia, but very seldom infected.

As the infection progresses with pus formation and increased tension, the blood supply and nourishing lymph are cut off from the envolved parts and these parts, dying, are separated from the living bone forming a sequestrum. Apparently this separation is partly accomplished by the osteoclasts whose function it is to destroy all unnecessary bone, and partly by pus, which seems to also have some solvent action. The medullary sequestration is accomplished much more quickly than the cortical. Medullary sequestrum may be loosened after two weeks while the separation of the cortical sequestrum takes from four to eight weeks.

Most text books are misleading as to the manner of onset of acute medullary type of osteomyelitis. The explosive type with severe pain, the type so often described in

*Read before the Section on Surgery and Gynecology, Annual Meeting, Oklahoma State Medical Association, Tulsa, May 12, 13, 14, 1925.

our text books, is the exception rather than the rule. The usual type is that of deep seated pain with more deliberate onset and painful to deep and prolonged pressure. Within three or more days chills may occur, high continuous temperature, leucocytosis with general toxæmia and sweating, but it is the first few hours with the initial symptoms of leg ache, deep in nature, painful to prolonged pressure that extreme care should be taken. Lowering the limb increases the pain as congestion is increased, therefore nerve pressure is increased. Usually a history of exposure, over-exertion or injury precedes all symptoms.

In the less acute types as typhoid osteomyelitis the pain is less acute and described as an aching located in the bone. This type develops insidiously and is usually chronic. The constitutional symptoms are trivial, a mild leucocytosis and irregular temperature are the prodromal indications. Matthis states "a persistent bradycardia in inflammatory bone disease is indicative of typhoid infection." The lesion may occur during the fever or years afterward but usually develops during convalescence. Any or all of the bony constituents may be involved.

The chronic type without sinuses is seldom discovered in the young, and in the older people it often simulates and is often diagnosed chronic rheumatism. This type includes the circumscribed bone abscess and bone cysts. Brodie's abscess is of this type and is a chronic circumscribed infection in the cancellous tissue at the extremities of long bones, especially the tibia, and is usually of a staphylococcus origin. Symptoms may be mild for years and the case is treated for rheumatism or diagnosed as growing pains, but a careful physical examination will reveal enough data to call for an X-Ray exposure which will show the sharply outlined cavity.

Acute suppurative periostitis is in reality a misnomer but is a superficial osteomyelitis with abscess formation beneath the periosteum with but a slight involvement of the cortex.

We do have a chronic periostitis which in fact is not a distinct disease *per se*, but a reaction of the periosteum to some adjacent irritation as an abscess in the soft tissues in the immediate vicinity of bony structure. Traumatism or contusions may produce a proliferation of the osteogenic cells. Syphilis or other infectious diseases

may produce periosteal thickening. It must be remembered that bone production is due to some sort of irritation, and osteomyelitis, syphilitic and pyogenic are our greatest bone producers. The site of this stimulation or irritation is always at the junction of the normal and pathological tissue. Cohnheim states "that there is a balance of epithelial and connective tissue and when this balance is disturbed pathological changes occur." Under normal conditions the periosteum lays down bone on the cortex but it is so symmetrical that it cannot be seen and the only time you can see the periosteum is when it becomes inflamed and starts to lay down bone.

Osteomyelitis may be acute or chronic and may be syphilitic or non-syphilitic. In acute syphilitic type we mean some periosteal irritation and bone destruction as shown by the radiogram and not acute in reference to the patient's general symptoms. Acute inflammatory osteomyelitis is either cortical or medullary and is traumatic or hematogenous in origin. The cortical type practically never starts without trauma, while medullary type does. Medullary osteomyelitis is a blood borne infection and there is some focal infection pre-existing. Therefore, except in open wounds a periosteal swelling following a contusion, will not go on to osteomyelitis if the blood is absolutely clean.

The cortical type rarely involves the medulla as it is more or less limited and confined to one spot, but is invariably characterized by marked production of bone laid down parallel to the shaft and does not extend out into the soft tissues. Almost invariably when bone is found in the soft tissues it is an osteal growth. A sequestrum may be present but not usually so. The cortex beneath will probably be disturbed and a lump of the thickened bone appearing with a blackened area, denoting the center of trouble. This condition is very painful because of the periosteal swelling.

Medullary type is dependent upon two facts. The severity of the infection and the resistance of the patient. Therefore there are many different pictures presented. The more severe and fulminating the process the greater the destruction and loss of bone. The more low grade and chronic the condition the greater the amount of new bone formation.

In acute osteomyelitis during the first stage nothing can be detected by the X-

ray, therefore it is of no value except in a differential way, by excluding fracture, tubercular or luetic lesions. Soon however, we get the vacuolated areas and evidence of destruction. The cortex shows bone stimulation in the form of periosteal infection. At times infection is so virulent that it breaks through the cortex and burrows beneath the periosteum and entire length of the bone.

In the differential diagnosis of the acute infective osteomyelitis from other lesions, one must remember that it is an extra-articular lesion and usually single, but with a secondary contiguous synovitis, it may be confused with acute arthritis deformans especially in children, infantile paralysis and acute inflammatory rheumatism. Acute arthritis deformans is usually multiple, prostration not so sudden or the temperature as high, continued deep pressure for fifteen or twenty seconds or tapping over the shaft will not cause the agonizing pain in shaft or joint if the joint is not moved and the same can be said of acute rheumatism. Determine if articular or not. In infantile paralysis you have the stiff neck and symptoms of nerve center irritation.

Sarcoma is some time confusing, but the tumor develops later in life as a rule, while bone infection is uncommon after thirty years of age. By determining one or more of the four cardinal points of bone tumors as pointed out by Baether of Baltimore, the lesion can be differentiated by the X-ray. Determine if possible if the lesion is one of invasion. This, however, is hard to do. Second, if it is a bone producer or not. Third, if it is cortical or medullary in origin. Fourth, the condition of the cortex.

Tuberculosis hits the synovial membrane and therefore primarily a joint lesion. It is not a producer of bone, but brings about an atrophic condition. The X-ray film shows a hazy and indistinct picture. It is true you may have an early sinus formation and a mixed infection with bone production following but not at the site of the tubercular activity. It is claimed that it takes nine months for T. B. to appear and therefore it is seldom seen under two years of age. Fibrous ankylosis is the rule as T. B. is not a bone producer. Tuberculosis of the diaphysis may be hard to differentiate from acute osteomyelitis but the history of T. B. and the acute condition of osteomyelitis are of most value.

Luetic bone troubles may be congenital or acquired and two types recognized. One

type is probably a neuropathic condition, and hits cartilage but is never seen in children. This is Charcot's joint and will not be considered. The other type attacks bone. In the congenital type there is an irregularity or eaten out areas at the epiphysis on the diaphysial side due to the abnormal change of cartilage into bone occurring at different times. Another change observed either in the congenital or acquired lues is the periosteal changes leading to the laying down of bone parallel to the shaft or in a lancelated form which is pathognomonic of syphilis. The former type is the most common syphilitic bony change and may attack the shaft or epiphysis with marked deformity. Another type is where there is a marked proliferation of the endosteum with or without periosteal involvement, though usually affected. Only one bone is usually affected and it becomes enlarged and thickened with more or less obliteration of the marrow activity.

Gummata is still another form of this type may appear in the spongy bone at any site, also in the lower layers of the periosteum with nodular thickening on the surfaces of the cortex. Lues produces a marked periositis yet unless a gumma is present there are not apt to be pus pockets. The last two types are late manifestations of lues. Periosteal thickening with mild symptoms should always make one think of syphilis.

Actinomycosis must be differentiated, but this condition so rarely involves bone and the characteristic sulphur granules with the mild inflammatory reaction will cause no difficulty.

Only the treatment of the pyogenic type will be considered. For years it was necessary to continually impress the medical fraternity the necessity of an early operation in acute appendicitis. In acute pyogenic bone infection the same necessity should be equally stressed. Early surgery in acute osteomyelitis is, if anything, more important than in most acute abdominal conditions, but this fact is harder to grasp.

The French surgeons report the pre- and post-operative vaccinotherapy to be of service in some cases, especially in typhoid type, but the results obtained do not warrant any definite conclusions and should be used only as an adjuvant.

When the case is seen early during the first twelve to twenty-four hours, the periosteum should be immediately incised and stripped back a centimeter or so. One or

more vents made in the bones thereby relieving tension and establishing drainage. Apply hot wet sterile packs, covering the same with water proofing material and change frequently maintaining the heat. We have often heard of the subperiosteal resection as being the ideal operation, but that is not a good expression. We better say the ideal time, not operation, and that time is within the first few hours of the infection. Murphy in his surgical clinics years ago gave a graphic description of rapid march of bone infection with its disastrous results and yet his masterful teachings too often go unheeded.

In cases of general septicæmia keep up nutrition. Intravenous injections of gentian violet and mercurochrome are advised, but the writer cannot speak of the dyes from experience. Nolf of Liege reports good results from intravenous commercial peptone, but personally, the transfusion of whole blood meets the situation best of all.

Cases where frank pus has appeared in the medulla are either neglected cases or misunderstood because of complications. Here you can expect more or less necrosis as the inflammatory pressure has shut off the blood supply and nourishing lymph to definite areas. The bone should be widely opened and thoroughly drained. Thrombosis is just in advance of the infected field but there are no macroscopic changes to determine the limitation of the process so curretting promiscuously or tight packing should be avoided as apparently dead bone may survive or act as a graft in the process of repair if sterile.

Dakinization, mercurochrome irrigation, and other antiseptics have their advocates. Hot sterile wet packs, alcoholic and boric acid or otherwise, encouraging the flow of lymph away from substance of the bone, thereby inhibiting the advance of the pathological process, giving nature a better chance to cope with the situation has been quite satisfactory to the writer. If it were possible to employ a germicidal agent of low toxicity, with a high germicidal index, without a tendency to inhibit or delay the regenerative process and if possible to bring same in close association with the infective process, we could expect results. Checking the process is what we strive for during this stage.

Where bone has been destroyed, wait after establishing drainage until you get a low bacterial count and demarcation has oc-

curred, then remove the sequestrum and continue disinfection until nature restores the lost bone. If the cavity is large pedunculated flap of tissue often aids greatly in the repair of the bone.

If you have a total sequestrum, wait until the roentgenogram shows new bone formation and then do a subperiosteal resection very carefully but as early as possible while bone growth is still active.

When the case does not come to surgery until the involucrum is well formed, enclosing sequestra with few fistulæ and a large cavity, your pedunculated transplants of skin, fat or muscle aids materially if you have the cavity well prepared and wide open cleaning sinuses. Good results sometimes follow the breaking in of the sides of the cavity if the periosteum is not injured in the procedure. Also in late cases where the repair power is not too low, removing the poorest of the involucrum, but saving as much of the periosteum as possible, is a very good procedure in children. A splint, however, is necessary to prevent fracture of the remaining involucrum.

The bone wax technique is serviceable especially in small cavities as in Brodie's disease, not as a permanent filling according to the Moosetig-Moorhof idea but as a protective filling. Beck's paste has been a disappointment in the writer's hands.

By the study of the meat preserving industry in which the "brine" containing potassium nitrate is used as the oxidizing agent, Max Thorek of Chicago, has worked out his aluminum-potassium nitrate method of treatment in certain types of chronic cases and in the March International Clinics reports a hundred and sixteen additional cases totaling several hundred in all with more or less marked results. This cultural, not antiseptic method, he reports is especially beneficial in chronic cases which have been operated one or more times, with unsatisfactory results. This anti-body method does not supplant surgery, and all sequestra should be removed and sinuses laid wide open and cleaned.

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THE MEDICAL AND HEALTH EDUCATION OF THE PUBLIC.

Extract of address before the Oklahoma Health Conference, Oklahoma City, Oct. 23, 1923, by Dr. John M. Dodson, Chicago, Illinois, Executive Secretary of the Bureau on Health and Instruction of the Public of the A. M. A., and chief of the editorial staff of *Hygeia*.

Dr. John M. Dodson first expressed his appreciation of the kind invitation to attend the conference and participate in the discussion. The Bureau of which he has charge seeks to co-operate with other health agencies in promoting health betterment and such opportunities for conference as are afforded by this meeting are of utmost value. He has been much impressed with the rapid advance which has been made in the health work in Oklahoma. Like some of the sister states in the South, it is pointing the way in the matter of sound, progressive health work to some of the older states in the North and East. Doctor Dodson has been especially impressed with the excellent work being done in the child welfare division, which is in many ways the most promising field of health activity.

The amazing advance in the medical sciences of the last half century, which exceeds all of previous time, has made practical contributions of far greater moment to our knowledge of prevention of diseases than to the curative side of medicine. The medicine of the future is certain to direct very much attention to the matter of promoting positive health and efficiency and thus forestalling disease, than has been the case in the past.

Preventive medicine comprises, first, community hygiene, second, personal hygiene. Community hygiene, by which is meant all those means by which the community as a whole seeks to protect the health of the individual, has made enormous advance in recent years—some diseases have been all but abolished from the world, but personal hygiene is much more important. By personal hygiene is meant the practice of sound health habits, based on knowledge of hygiene in its broadest sense. Personal hygiene, is therefore, a matter of education and training in health habits. All of those who are engaged in health work are agreed that education and yet more education along these lines is the most vital factor in the promotion of health.

Dr. Dodson then proceeded to speak of the manner in which the health and medical education of the public is to be advanced. He said it must begin at the earliest moment of life, the infant being trained in the proper health habits and even before this the mother in the child bearing period being properly instructed. It must continue through the period between infancy and school life, the so called pre-school age, only recently beginning to receive attention. During the school period health is the most fundamental and essential feature of the whole school program. Doctor Dodson emphasized the remarkable, all but revolutionary, change of attitude which has come over the educational world within the last decade in reference to the importance of health. He described the work and accomplishments of the Joint Committee on Health Problems in Education of the American Medical Association and the National Education Association from its beginning in 1912 to the present time. He alluded especially to the report of this committee on "Health Education" which was adopted by the National Education Association in 1924. As evidence of the results which are being obtained he mentioned the remarkable series of nearly five thousand health posters which were submitted in a contest held by *Hygeia* in 1924. A few of these posters were exhibited.

"It is impossible," said Doctor Dodson, "to emphasize too strongly the fact that our great hope of health betterment lies in the training of the young. However, something must be done for the adult, and many agencies are seeking the education of the laity. These may be divided into three groups: (1) The official public health agencies, including the physicians in the public health service, nurses, and a few social service workers in the large cities; (2) the great professional groups, conspicuously the physicians in the American Medical Association and its state and county societies, and the great body of teachers in the National Education Association and the various state teachers organizations; and (3) the great volunteer agencies, such as the National Tuberculosis Association, with its local branches, the American Child Health Association, and various local societies. Between these many groups it is essential that there should be intelligent, sympathetic, sustained and understanding co-operation."

Doctor Dodson then described the various means by which the health education of the public is being promoted: (1) thru the health columns of the daily press, some of which are trustworthy and commendable; by health items and articles in popular magazines of all sorts; by pamphlets on public health topics; (2) by health talks in person or over the radio. The precautions necessary in the preparation and delivery of such talks or addresses were discussed by Doctor Dodson. (3) Exhibits of health material at state or county fairs or in connection with meetings of various sorts, have great possibilities which have scarcely begun to be realized. Magazines devoted exclusively to health are mentioned, especially *Hygeia*, the health magazine published by the medical profession for the education of the laity.

Finally, most effective of all he mentions the individual instruction which can be given to individuals by the family doctor, as a health advisor, and by the public health nurse and occasionally by the teacher. The plan of periodic examinations of apparently healthy persons at intervals, which is being urged by the American Medical Association, offers the most effective method of education of the public.

ENLARGED PROGRAM FOR MATERNAL WELFARE.

W. A. FOWLER, M.D., Chairman
Oklahoma City.

The Joint Committee representing the American Association of Obstetricians, Gynecologists and Abdominal Surgeons, the American Child Health Association, and the American Gynecological Society, has organized a nation-wide propaganda to present an appeal for better obstetrics, more definite prenatal care and rigid asepsis.

Through State Chairmen of groups of lecturers, who will, on request, furnish a speaker for any meeting, the Committee hopes to present a program on Maternal Welfare in every medical society in the State. Names of speakers are to be given by the State Chairman to the Secretary of the State Society, from whom Secretaries of District and County Societies may obtain information.

Originally it was planned to include in the Joint Committee representatives of the Section of the A. M. A. on Obstetrics, Gynecology and Abdominal Surgery, but owing to the annual change in the personnel of the officers and the fact that no provision can be made for the financial support of a committee, this was thought by the officers of the Section to be impracticable.

The organization of the Committee is now comprehensive throughout the country, and is already beginning to function in an effective manner.

One of the most vital problems which the profession must solve is that of the early reduction of the risk rate to mothers in childbirth. There can be no question as to where lies the responsibility for the vast majority of cases of puerperal sepsis and eclampsia, which are the two outstanding elements in maternal morbidity and mortality. It lies largely with the medical profession itself. The remedy for this condition is to be found, also, within our own ranks, and can be expressed in one word Education.

It is believed that the program outlined by the Joint Committee will reduce by fifty per cent. our present rate to mothers in childbirth.

ANNOUNCEMENT.

The Tenth Annual Congress on Internal Medicine will be held at Detroit and Ann Arbor, week of February 22-27, 1926.

The Congress is devoted to amphitheatre, bedside and clinical laboratory demonstrations as well as to symposia dealing with modern phases of internal medicine. Distinguished guests from abroad Canada and the leading clinics of the United States will occupy prominent places on the program. Four days will be devoted to the work at Detroit and on one day, the society will be the guest of the University of Michigan at the newly opened eleven hundred bed University Hospital.

All physicians, who are interested in internal medicine and who are members in good standing of their local and national societies are cordially invited to attend the Congress.

Hotel headquarters will be at the Book-Cadillac in Detroit. Information regarding reduced railroad rates, program, hotel accommodations, etc., may be secured from the Secretary-General.

C. G. JENNINGS, M.D., President,
American Congress on Internal Medicine, Detroit.

FRANK SMITHIES, M.D. Sec'y-Gen'l.,
920 N. Michigan Avenue, Chicago.

AUTOHEMAGGLUTINATION IN CHRONIC LEUKEMIA.

True autohemagglutination has been observed by Harry L. Alexander and Lawrence D. Thompson, St. Louis (Journal A. M. A., Nov. 28, 1925), in a case of chronic leukemia of undetermined type. The hemagglutination satisfies the criteria established by Landsteiner, Yorke and Clough and Richter, by possessing the following characteristics: (a) Agglutination occurs only at temperatures below body temperature. (b) The agglutinated cells disperse when the temperature is raised to body temperature. (c) The agglutinin will act in like manner on human cells and on cells of various animals. The patient's symptoms at one time suggested that he had paroxysmal hemoglobinuria, although no autohemolysin could be demonstrated recently.

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Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive the Journal should call for immediate notification of the editor, Barnes Building, Muskogee, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes in address, deaths and weddings will be gratefully received.

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EDITORIAL

THE PREVENTION AND CONTROL OF VENEREAL INFECTIONS.

State Commissioner of Health, Dr. Carl Puckett, has decided that he should have more cooperation from the medical profession than heretofore in the matter of receiving such reports as are legally due from physicians, as well as more of the actual support that profession should give him by reason of the peculiarly fitting position they occupy. In a communication to the *Journal* recently he makes his plea for more concerted and good-faith action

than health officers have been given up to this time. Dr. Puckett's article will appear in the next issue of the *Journal*, having been received too late for publication in this issue.

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ACTIVITIES OF THE GORGAS MEMORIAL INSTITUTE

December first the Board of Directors of the Institute issued a report of progress of the vast work now under way. President Coolidge, Honorary President, sent a message to the meeting of the Board reading in part as follows:

The Gorgas Memorial's Plan to conserve this needless waste of human resources is commendatory and deserving of the support of all thinking people.

Nearly two thousand physicians and laymen have been enrolled on State Governing Committees. The Gorgas idea is becoming better known throughout the country and this knowledge is developing a keen public interest in this co-operative medical and lay effort to improve the health of the individual, which ultimately means longer and better life. The Gorgas program consists of two phases; the work in tropical research; and, an educational campaign to develop cooperation between scientific medicine and the laity, to the end that personal health standards may be improved and preventable illness and premature deaths avoided. In January a signed health article prepared by one of the Governing Committee members was sent to editors of 1,000 newspapers, with the statement that it was the first of a series of authoritative health articles to be distributed by the Gorgas Memorial Institute for the proper guidance of the public in the care of "personal health". The reply to this was hundreds of clippings, many of them editorials commenting favorably upon the work. It is estimated that through the cooperation of news agencies and newspapers these articles are now reaching twenty millions of people. Many committee organizations have been held in the larger centers, where Chairmen and Secretaries were appointed and plans formulated to launch intensive campaigns of education and solicitation of funds from the laity. The immediate effect of this has been to increase and stimulate the number of periodic health examinations by

the family physician. The periodic health examination is a live issue today. In the not far distant future it will become a national habit.

The Republic of Panama authorized the floating of a \$75,000 bond issue to finance the construction of a research institute at Panama, also donating a site of ground. Within the last year \$10,000 worth of laboratory equipment has been donated for use of this institute. Even the great modern City of Chicago has not been overlooked, for there an extensive and intensive mosquito eradicating campaign has been launched and sufficient funds raised to properly finance the work.

RADIOGRAPHIC GALL-BLADDER VISUALIZATION

A short time ago Graham, Cole and others¹ announced the results of their experimental and clinical work upon gall-bladder visualization by means of injection of solutions of tetrabromphenolphthalein and later the sodium, instead of the calcium salt of the same substance. This accomplishment was a distinct advance over any and all former methods attempting to give the internist and surgeon accurate information as to the location, size and possible pathologic conditions of the gall-bladder. Every internist and surgeon recalls his helplessness in attempting to secure accurate information from radiographic studies of objects. The method of Graham and his associates have been very largely in use, and with very satisfactory results.

Since this report the Sabatini's (August, 1925)² have apparently made epochal advances over all other investigators. They propose the oral administration of sodium bromide as offering the most satisfactory results heretofore attained. The administration of this harmless salt for the purpose of study of the gall-bladder by radiographs it is demanded as a preliminary, must be preceded by very definite treatment of the gastrointestinal tract as to moderate purgation and foods, even to the administration of water. The method of Sabatini, it is claimed, eliminates the dangers of intravenous administration of tetrabromphenolphthalein, toxic, if in too large quantities and extremely irritant if allowed to escape from the vein. The Sabatini's believe with further studies that

the method proposed, which is now being amplified, spares the patient dangerous inconvenience and is of such simplicity that it may be easily followed.

1. Graham, Cole and Copher, Vol. 2, Numbers 8 and 22, Journal A. M. A., 1924.

2. International Medical Digest, Vol. 7, No. 5, November, 1925.

Editorial Notes—Personal and General

DR. W. T. MAYFIELD, Norman, was chosen President of the Norman Kiwanis Club for 1926.

DR. H. T. BALLANTINE and family, Muskogee, spent the Christmas Holidays in the City of Mexico with relatives.

DR. J. A. BATES, Kemp, has moved to Coalgate to enter practice there in partnership with his father, Dr. Frank Bates.

DR. EDWARD F. DAVIS, Oklahoma City, has returned from an absence of several months in Wyoming and some work at Chicago and Rochester.

DR. FRED C. SHEETS, Oklahoma City, attended the funeral of his mother, Mrs. Alice E. Sheets, at her old home in Willow, West Virginia, in December.

DR. S. J. T. HINES, Clemscot, was slightly injured December 11th, when the auto in which he was driving collided with another machine and overturned.

JACKSON COUNTY MEDICAL SOCIETY met December 10, at Eldorado. The program consisted of several papers and a quail dinner at the Legion Hall. The next meeting will be held this month at Altus.

ST. JOHNS HOSPITAL, Tulsa, considers its drive to raise \$750,000 for the completion of its hospital building has been a success although the amount collected at the finish was slightly over \$600,000. Eighty beds are expected to be ready by February 1st.

PAYNE COUNTY MEDICAL SOCIETY met December 29th, at Cushing, electing W. N. Davidson, president; J. E. Adams, vice-president, and J. Walter Hough, secretary. Dr. Davidson read a paper on "Nasal and Ocular Headaches"; Dr. J. A. Martin gave a detailed case report on "Rabies"; Dr. Adams on "Colds and Their Sequelae." Cushing physicians furnished the "smokes".

OSAGE COUNTY MEDICAL SOCIETY met in December at Pawhuska and elected Dr. T. J. Colley, Hominy, President; Dr. O. R. Gregg, Pawhuska, Vice-President; Dr. Robert J. Barritt, Pawhuska, Secretary-Treasurer; Dr. B. F. Sullivan, Barnsdall, censor, and Drs. C. K. Logan, Hominy, and Leonard Williams, Pawhuska, delegates. The program was featured by a paper on Diabetes, by Dr. Lea A. Riley, Oklahoma City.

DR. GEORGE GILLEN, Drumright, has located in Cushing.

DR. R. C. FARRIER, Idabell, has been appointed to the U. S. Veterans Bureau.

DR. W. H. WILLIAMSON, Sulphur, is retiring from active practice and moving to Oklahoma City.

DR. H. A. CONGER, Duncan attended the funeral of his brother, A. J. Conger, at Quinton, Texas, last month.

DR. C. V. RICE, Muskogee, was called to Chester, West Virginia, on account of the death of his mother on Christmas day.

LATIMER COUNTY MEDICAL SOCIETY elected the following officers for 1926: Dr. E. B. Hamilton, President, and Dr. T. L. Henry was re-elected Secretary-Treasurer, both of Wilburton.

DR. J. O. GLENN, Stroud, was held up December 1st, as he was going to his home, and relieved of his valuables and shot in the calf of the leg. Dr. Glenn was removed to Oklahoma City for treatment.

DR. WALTER HARDY, Ardmore, was called to Portales, New Mexico, last month to attend his father and a brother and sister who had been severely burned in a fire that destroyed their residence. Dr. Hardy brought all of them back to his sanitarium at Ardmore.

JEFFERSON COUNTY MEDICAL SOCIETY met November 30 and elected the following officers: Dr. W. M. Browning, Waurika, President; Dr. D. B. Collins, Waurika, Secretary-Treasurer. Dr. Ray M. Balyeat, Oklahoma City, was the principal speaker at the scientific session.

LE FLORE COUNTY MEDICAL SOCIETY at a regular meeting at Poteau December 16th elected the following officers: Dr. J. B. Wear Poteau, President; Dr. J. D. Jones, Talihina, Vice-President; Dr. A. G. Hunt, Bokoshe, Secretary-Treasurer, and Dr. E. N. Fair, Heavener, delegate.

TULSA COUNTY MEDICAL SOCIETY has elected the following new officers for 1926: Dr. George R. Osborne, President-elect; Dr. William J. Trainor, Vice-President; Dr. R. Q. Atchley, Secretary-Treasurer, and Dr. D. O. Smith, censor, all of Tulsa. Dr. C. S. Summers is the incoming President for 1926.

MUSKOGEE COUNTY MEDICAL SOCIETY met December 15th, at the Severs Hotel in annual meeting, with Dr. M. S. Gregory, Oklahoma City, as guest of honor, who made an address on "Some Etiological Factors in Psycho-Neuroses". The following were elected to fill the offices for 1926: Dr. H. A. Scott, President; Dr. S. E. Mitchell, Vice-President, and Dr. A. L. Stocks was re-elected Secretary-Treasurer, all of Muskogee.

DR. W. H. SISLER, Bristow, has moved to 319 Palace Building Tulsa, where he will confine his practice to orthopaedic surgery.

THE NEW MEDICAL ARTS BUILDING at Okemah is being finished and will be ready for occupancy this month; it represents an outlay of \$25,000, and will be occupied by Drs. C. M. Bloss, J. M. Pemberton, and J. L. Spickard.

MARSHALL COUNTY MEDICAL SOCIETY met December 22nd, and elected the following officers: Dr. J. L. Holland, Madill, President; Dr. John I. Gaston, Madill, Vice-President, and Dr. H. E. Rappolee, Madill, Secretary-Treasurer.

ALFALFA COUNTY MEDICAL SOCIETY elected as officers for 1926: Dr. L. T. Lancaster, Cherokee, President; Dr. H. M. Wheeler, Helena, Vice-President; Dr. H. A. Lile, Cherokee, was re-elected Secretary-Treasurer; Dr. Z. J. Clark, Cherokee, delegate, and Drs. M. T. Evens, Aline, C. O. Gingles, Carmen, and T. A. Rhodes, Cherokee, censors.

PUSHMATAHA COUNTY MEDICAL SOCIETY officers for 1926 are as follows: Dr. H. C. Johnson, Antlers, President, and Dr. J. A. Burnett, Crum Creek, Secretary-Treasurer. Both of these officers have served in their present capacities for many years, Dr. Johnson having been President for the fourth consecutive term, and Dr. Burnett for his sixth.

WASHINGTON COUNTY MEDICAL SOCIETY elected Dr. S. J. Bradfield, President; Dr. W. H. Kingman, Vice-President; Dr. J. V. Athey, Secretary, and Dr. W. E. Rammel, Treasurer; all are of Bartlesville. Dr. O. I. Green, Bartlesville, and Dr. G. V. Dorsheimer, Dewey, were elected delegates, and Dr. J. P. Vansant, Dewey, was elected censor. The installation of the new officers will be celebrated with a banquet on January 12th.

OTTAWA COUNTY MEDICAL SOCIETY tendered an extensive game dinner to its members and many invited guests at the Miami Baptist Hospital, December 16th. The menu called for everything from just soup through a long list of such delectables as caput Lactucarium, with cum grano salis aided and abetted by a dressing of Ol. Ricini, Bob White, both Oklahomiensis and Missourienis, Gossypii Caudata (without the caudata), Oleomargarine, colored with Fel Bovis. The beverages consisted of Vinum Miaamiensis, Maltum Fortior, Decolorized Mule, (Jacob, Jake, Methyl Spirit, Near Beer and Beer somewhat nearer), Sodium Bicarbonate, Phenolphthalein and Methyl Salicylate were not omitted. Nor were many other delicacies of awesome cognomen left off the card. Scientific pabulum was supplied by Drs. David Garrett, Tulsa, who read a paper on "Why Does A Clean Surgeon Have Infections?"; W. T. Tilly, Muskogee, on "Let No Guilty Foci of Infection Escape" and Walter A. Howard, Chelsea, whose subject was "Medical Jurisprudence, or How to Exhume Paupers Without Getting Into the Penitentiary." The program was arranged by Drs. Geo. A. DeTar, President, and General Pinnell, Secretary, Miami.

CHOCTAW COUNTY MEDICAL SOCIETY met in regular session December 19th and elected Dr. W. N. John, Hugo, President; Dr. R. J. Shull, Hugo, Vice-President, and Dr. Robert L. Gee, Hugo, Secretary-Treasurer.

NOWATA COUNTY MEDICAL SOCIETY at its meeting November 5th, reelected its former officers to serve during 1926. They are Dr. John P. Sudderth, President, and Dr. John R. Collins, Secretary-Treasurer, both of Nowata.

ATOKA COUNTY MEDICAL SOCIETY met December 26th and elected the following officers: Dr. Thomas H. Briggs, Atoka, President; Dr. C. C. Gardner Secretary-Treasurer. Future meetings will be held on the first Tuesday of each month.

ADAIR COUNTY MEDICAL SOCIETY elected the following officers on December 2nd, to serve during 1926: Dr. R. M. Church, Stilwell, President; Dr. J. L. Bean, Westville, Vice-President; Dr. Joseph A. Patton, Stilwell, was reelected Secretary-Treasurer, and Dr. I. W. Rogers, Watts, delegate.

COMANCHE COUNTY MEDICAL SOCIETY elected Dr. H. A. Angus, President; Dr. P. G. Dunlap, Vice-President, and reelected Dr. G. S. Barber, Secretary-Treasurer, all of Lawton. Drs. W. B. Mead, L. T. Gooch and T. R. Lutner were elected censors. The next meeting will be held January 11th.

WOODWARD COUNTY MEDICAL SOCIETY elected the following officers: Dr. C. R. Silverthorne, Woodward, President; Dr. H. Walker, Rosston, Vice-President, and Dr. C. E. Williams, Woodward, Secretary-Treasurer; Drs. T. C. Leachman, Woodward, R. L. Edmonds, Fargo, and J. C. Forney, Woodward, were elected censors.

WOOD COUNTY MEDICAL SOCIETY was 100 per cent. present at the annual meeting for the election of new officers on November 24th, at Alva. Dr. E. P. Clapper, Waynoka, was elected President, and Dr. O. E. Templin, Alva was reelected Secretary-Treasurer. The next meeting will be held January 26th, at Alva. After a scientific program, a banquet was served at the Methodist church by Dr. George N. Bilby, Alva, at which Dr. A. S. Risser, Blackwell, President-elect of the State Association, was the principal speaker.

STEPHENS COUNTY MEDICAL SOCIETY held its annual meeting for the election of officers on December 15th, at Duncan, following a banquet at the New Duncan Hotel. The following officers were elected for 1926: Dr. C. M. Harrison, Comanche, President; Dr. J. W. Nieweg, Duncan, Vice-President; Dr. B. H. Burnett, Duncan, Secretary-Treasurer; Dr. P. N. Hall, Marlow, censor, and Drs. D. Long and G. H. Wallace, Duncan, delegates, with Drs. S. H. Williamson and B. H. Burnett, Duncan, as alternates. A public meeting was held at the Baptist church at which Dr. L. S. Blachley, Oklahoma City, Director of the Bureau of Maternity and Infant Hygiene delivered an address on Infant Hygiene.

BRYAN COUNTY MEDICAL SOCIETY met December 8th, at Durant with a scientific program and an election of new officers for the coming year. Those chosen were: Dr. J. R. Keller, Calera, President; Dr. Roy L. Cochran, Caddo, Vice-President; Dr. W. D. DeLay, Durant, Secretary-Treasurer, and Dr. A. S. Hagood, Durant, delegate.

GRANT COUNTY MEDICAL SOCIETY has as officers for the new year: Dr. A. Hamilton, Manchester, President; Dr. J. Marshall Tucker, Nash, Vice-President; Dr. E. E. Lawson, Medford, Secretary-Treasurer; Dr. I. V. Hardy, Medford, delegate, with Dr. C. A. Lively, Wakita, as alternate, and Drs. G. T. Drennan, Pond Creek, C. A. Lively, and E. E. Lawson, censors.

WASHITA COUNTY MEDICAL SOCIETY met December 18th, at Cordell and elected as officers for 1926: Dr. I. S. Freeman, Rocky, President; Dr. A. M. Sherburne, Cordell, Vice-President; Dr. A. H. Bungardt, Cordell, Secretary-Treasurer, and Dr. D. W. Bennett, Sentinel, delegate. A joint meeting was then held with the membership of Custer, Beckham, Kiowa and Washita counties, at which papers were presented by several doctors, following a banquet given by the Washita County Poultry Association.

OKLAHOMA STATE HOSPITAL ASSOCIATION held its annual meeting at Oklahoma City December 14th. Addresses were made by several State officials who are closely connected with the work of hospitals and physicians by reason of the State Compensation Laws, as well as by leading physicians and nurses of the State. Dr. Fred S. Clinton, Tulsa, was re-elected President, with Mr. Paul Fesler, University Hospital, Secretary, also re-elected. It was decided to hold the next meeting at Oklahoma City in connection with the meeting of the State Medical Association in May.

DR. CHAS. R. HUME, Anadarko, Secretary of Caddo County Society, plans to leave early in January for an extensive trip to California. Before his departure, however, Dr. Hume, with his usual foresight issued a statement to his membership that he intended to leave and wanted the matter of annual dues attended to before his departure. Incidentally he reminded his members that the next Annual Meeting would be in Oklahoma City, and that the members would want to attend that meeting as well as the Dallas Meeting of the A. M. A.

ENSWORTH MEDICAL COLLEGE ALUMNI. The Alumni Association of the Ensworth Medical College was formed in Kansas City in October, with a membership of forty-three. Dr. Charles Geiger of St. Joseph was elected president of the association. The writer is very anxious to have enrolled all the graduates of Northwestern, Central and Ensworth Medical Colleges. The dues are \$1.00 per year. We hope to have 100 in attendance at the meeting next fall. All graduates of the three colleges mentioned above are urged to send in their names to the secretary for enrollment at once.—Charles Wood Fassett, M.D., Secretary, 115 East Thirty-first Street, Kansas City, Missouri.

ROGERS COUNTY MEDICAL SOCIETY at its meeting December 21st, reelected Dr. A. M. Arnold, Claremore, President, and Dr. W. A. Howard, Chelsea, Secretary-Treasurer. Dr. William P. Mills, Claremore, was elected Vice-President. At a scientific meeting December 14th. Drs. Earl D. McBride, Oklahoma City, M. S. Gregory, Oklahoma City, James Stevenson, Tulsa, and C. T. Henderson, Tulsa, were the principal speakers.

OKLAHOMA COUNTY MEDICAL ASSOCIATION elected the following officers at its annual meeting in December: Dr. W. W. Rucks, President; Dr. Tom Lowry, Vice-President, and Dr. R. L. Murdoch, Secretary-Treasurer, all of Oklahoma City. Dr. H. C. Todd was elected delegate and Dr. E. L. Ferguson to the Board of censors. More than 100 members were present at the meeting, which was held at University Hospital, and included a scientific program.

TILLMAN COUNTY MEDICAL SOCIETY held its regular meeting at Frederick December 28, and elected the following new officers for 1926: Dr. F. G. Priestley, President; Dr. O. G. Bacon, Vice-President, and Dr. C. Curtis Allen, Secretary-Treasurer, all of Frederick. Dr. Priestley was named delegate, with Dr. J. E. Arrington, Frederick, alternate. A plan was outlined for solving the ever present question of the payment of doctor's bills, one firm of doctors in Frederick reporting outstanding accounts of more than \$30,000.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M. D.
1006 First Nat'l Bank Bldg., Oklahoma City

CLINICAL CASE REPORT—Internal derangement of the knee joint.

Case 1.

History: R. J., age 20. States that knee has locked many times in past three years. It first happened while wrestling. His leg was twisted and he could not straighten it. The pain was severe. Forceful pulling relieved it. Recurrence of the locking has become less painful but now happens without any special trauma, such as the act of getting out of bed.

Physical: Knee slightly large due to moderate about of synovitis. Has full extension and flexion. Sharp, sudden extension is painful. There is a definite point of tenderness in joint space, a little to inner side of patella. No abnormal laxity of joint. No noticeable atrophy of quadriceps.

X-Ray: X-Ray showed no apparent pathology.

Diagnosis: Loose internal semilunar cartilage.

Treatment: Removal.

Case 2.

History: E. McC., age 25, comes in for relief of a disagreeable catching in knee joint. It first happened while playing base ball three years ago. The knee became painfully locked at almost a right angle but manipulation by team mate relieved it. He has seen a lump in the region of the joint on inner side of patella upon several occasions and by pressure could cause this prominence to disappear.

Physical: An athlete, weight 230, height 6 feet, 3 in. Walks without a limp. Has normal motion of knee. No enlargement. No atrophy. Sudden extension not painful. No laxity of joint. Not tender over internal or external semilunar.

X-Ray: Reveals loose body of bone density in the center of the joint immediately back of patella.

Diagnosis: Loose body.

Treatment: Removal.

Discussion: These two cases are typical of two frequent knee joint derangements. Injury to the internal semilunars must be distinguished from other symptoms. A few differential points in diagnosis are as follows:

1. Rupture or sprain of the internal lateral ligaments: Pain and tenderness over inner side of joint. No locking. No definite point of tenderness over internal semilunar.

2. Rupture of crucial ligaments. Abnormal hyperextension on backward subluxation and antero-posterior immobility are possible.

3. Fractures of the tibial spine. A bony block usually limits full extension. Absence of tenderness at the diagnostic points. X-Ray clinches the diagnosis.

4. Loose body: The locking is usually of momentary nature. The location of catching sensation shifts. Absence of the diagnostic points of tenderness. X-Ray usually reveals body.

5. Chronic arthritis: Pain and tenderness more generalized. Absence of typical history of onset of semilunar lesion. True locking is rare. X-Ray shows lipping or absorption of joint surfaces.

6. Hypertrophy of infrapatellar pad of fat; may be bulging. Full extension painful. True locking is rare and slight pain. Effusion after exercises is common.

AMPUTATIONS IN INDUSTRIAL SURGERY—

W. L. Estes. *Annals of Surgery*, January, 1925.

This article is a practical up-to-date treatise on the subject of amputations in industrial surgery and is an illuminating discourse on conservative surgery in this type of accidents. It does not read like a student thesis, but more like the careful utterance of a mature surgeon who has had to cope with conditions as they are in industrial surgery, rather than what they might be limited to in a teaching institution. It is too long and too full of valuable points to be abstracted. It should be carefully read to be properly appreciated. In a total of 727 major amputations there were 31 deaths. When it is recalled that these amputations were for traumas and that 223 of them were of the thigh, it is evident that industrial surgeons in general will have to go some to follow such a pace.

SPASMODIC TORTICOLLIS. J. M. T. Finney and W. Hughson. *Annals of Surgery*, January, 1925.

These authors review the development of operative treatment of this condition and relate their experience in thirty-two operated cases. The origin of many cases still remains obscure. The operation employed is a development of Keen's

method, first published in 1891, and has for its purpose a careful resection of the suboccipital, the great occipital, and the third cervical nerves. This requires an extensive and deep dissection of the structures at the back of the neck. They employ an inverted U-shaped skin incision beginning at the back of the sternomastoid muscle two finger-breadths below the angle of the jaw and passing upward along the border of the muscles until it passes in a curve inward to a point two finger-breadths below the external occipital protuberance, whence it is continued down to below the angle of the jaw on the other side. With this flap turned down and the great occipital nerve as a guide, the trapezius and splenius and complexus are cut across and the structures making up the suboccipital triangle brought to view. At this depth the three posterior branches of the cervical nerves are resected. The results of treatment are thus summed up: "Of our series of thirty-two operated cases, one has not been heard from recently. Of the remaining thirty-one, three are unimproved, sixteen have been improved but not entirely relieved, while twelve have been completely cured. It should be borne in mind that these operations cover a period of more than twenty years, that the earlier operations were very incomplete, and that the operation just described has been developed comparatively recently. It has been used in only a few cases, too few and too recent, but in a sufficient number, we believe, as compared with previously used and less radical methods, to justify its more extended use."

OSTEOCHONDRITIS OF THE HIP AND COXA VARA—Bellando, Randone and Reviglio. *Revue D'Orthopedie*, 1925.

A boy of seven years of age began to limp after attack of scarlet fever. The clinical picture was that of osteochondritis of the right hip, except that abduction was limited in both hips. A roentgenogram showed bilateral coxa vara with a flattened femoral head on the right. The patient was followed for five years. At the end of this time the gait was normal. There was, however, two centimeters shortening and slight atrophy of the right thigh, with some limitation of abduction and internal rotation in the right hip. On the right, the head of the femur was enlarged and flattened.

BACTERIOLOGY and PATHOLOGY

Edited by Wm. H. Bailey, A.B. M.D.
Wesley Hospital, Oklahoma City

Beef Bone Dowel Pins.—Dr. G. A. Hendon, Louisville, Kentucky, So. Med. Jr., Nov., 1925.

The author states that "to espouse the cause of heterogenous intra-medullary bone splinting is to oppose the strongest currents of authoritative opinion." He was first forced to use the beef bone dowel pins by necessity and finding that it worked to the complete satisfaction of the patient and the surgeon, he now uses it routinely by choice. He says that although some authorities maintain that the autogenous bone graft actually grows, it is generally agreed that it does not grow but merely

acts as a frame-work on which the new osseous tissue is built. If this is true the autogenous graft can only have the slight advantage over the heterogenous in that it may be less irritating and so devoid of some of the retarding influences. In the matter of simplicity of technic the beef bone splint has many advantages over the autogenous graft. Dr. Hendon points out two other factors which are important. He states that it is not necessary that the ends of the fragments come into actual contact with each other. He saws off the ends of the fragments so that the flat surfaces may be opposed, thus lessening the tendency to displacement and reducing strain on the pin. Even an inch space between the ends of the fragments is never missed. Also, it is not desirable to wedge the pin into the medullary canal forcibly, as he believes it can cause a pressure necrosis of the living bone the same as a stitch that is too tight in soft tissues.

He gives his indications for the use of the dowel pins as follows:

1. To overcome difficulties of alignment.
2. To overcome the factors causing non-union.
3. To correct the results of vicious union.
4. When simplicity of technic is desired.
5. When it seems desirable to lessen the burden of the patient by one operation instead of two.

A STUDY OF 450 CASES OF EPIDEMIC ENCEPHALITIS.—Drs. Neal, Jackson and Appelbaum, New York City, N. Y., *American Journal of Medical Science*, Nov., 1925.

The authors make no effort to review the literature in detail but simply point out the outstanding features which they observed in this rather large series of cases coming to the Meningitis Division of the Research Laboratories of the New York Department of Health. They have tabulated their cases by years (1918-1923) seasons, sex, and age of the patients. The symptomatology is taken up in detail and clearly shows that although the chief symptoms are referable to the central nervous system, there are also symptoms caused by general toxemia, as fever, malaise, etc. The authors state that the term encephalitis lethargica, seems very unfortunate to them, since lethargy is frequently not present, in fact the opposite, as insomnia and restlessness are frequently the outstanding symptoms.

Under laboratory aids in diagnosis, the authors have the following to say. Blood examination is not at all characteristic; W. B. C. 10,000-15,000; blood culture, sterile; spinal fluid examination is the most diagnostic laboratory aid, but it not pathognomic. Spinal fluid cell count usually below 100, with preponderance of mononuclears, may be slight increase in globulin and albumin. Sugar normal or increased slightly. Bacteria in spinal fluid none. All the above spinal fluid findings may be present in poliomyelitis, some cases of central nervous syphilis and early T. B. meningitis. Spinal fluid Wassermann negative. Luetic and paretic colloidal-gold curves were fairly common in the spinal fluid from epidemic encephalitis and this fact must be remembered in differentiation. A few cases of unquestionable epidemic encephalitis gave an absolutely normal spinal fluid.

Under pathology, the authors class the changes as due to an inflammatory disturbance. The similarity of the inflammatory lesions in this disturbance with those in other inflammatory disturbances of the central nervous system is so close that it is often impossible to make a diagnosis from the pathology alone. The lesions are of four kinds: (1) filtration of the walls of small vessels with lymphocytes and plasma cells, (2) Foci of interstitial and parenchymatous infiltration with round cells, (3) Lesions of the nerve cells, (4) Foci of peri-vascular hemorrhage. Vessel walls usually not necrosed.

The authors state that there has been no specific treatment established. The majority of observers agree that lumbar puncture is beneficial. Pressure symptoms and the amount of fluid removed seem to be the best guides for the frequency of repeated lumbar punctures.

The sequelae have been studied in considerable detail. They have divided them into the following classes: (a) Mental; (b) Trophic; (c) Endocrine; (d) Sensory; (e) Motor; (f) Miscellaneous. The study of these however, comes under the general classification of neurology rather than that of the disease itself.

LEUCOCYTE FRAGILITY TEST IN THE PROGNOSIS OF PNEUMONIA—Drs. C. A. Pons and E. P. Ward, Philadelphia, *Journal of Laboratory and Clinical Medicine*, Nov., 1925.

The authors believe that the study of the fragility of leucocytes is of value in the course of some acute infectious diseases but to be considered only as a sign along with other studies. The findings are not always conclusive.

It has been observed that the fragile cells increase before complications and that high fragility is almost always associated with either a stormy course or bad prognosis, especially if accompanied by normal or low leucocyte count. The fragility curve is independent of leucocyte curve or subjective symptoms.

A single high fragile count is of little significance, especially early in the disease. The fragility curve is influenced by treatment. In certain cases studied, beneficial treatment was followed by first, a slight rise in fragility count followed by a sharp fall and remaining low.

The cases observed have not been sufficient for definite conclusions.

STOOL EXAMINATION FOR PROTOZOA—by Dr. Walter S. Taylor and Dr. E. A. Baumgartner, Clifton Springs, New York. *The Journal of the American Medical Assn.*, Nov. 28, 1925.

In 1,122 inmates of a New York state institution, 44 per cent showed intestinal protozoa on examination of a single stool specimen from each. There is evidence of cross infestation in the institution. The influence of age is not great except in the case of *Giardia lamblia*, in which young persons are more often infested. *Chilomastix mesnili*, a non-pathogenic protozoa, was the organism most often found. *Entamoeba histolytica* was seen only in 1 per cent of those persons examined.

The authors are led to believe that *Entamoeba histolytica* plays an insignificant role in the production of disease in New York State.

The method of examination was as follows: "A small bit of feces was emulsified in a weak solution of neutral red in 0.85 per cent salt solution, this serves to detect the vegetable amebas and living flagellates. A second preparation was made, compound solution of iodine being the diluent, and the final test was the examination of film preparations fixed in Schaudinn's fluid and stained with iron-hematoxylin.

EYE, EAR, NOSE and THROAT

Edited by Jas. C. Braswell, M. D.
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Alternating Convergent Squint,—Goar, E. L. *Jour. A. M. A.*, 1925, lxxxv, 101.

Goar sent a questionnaire to prominent American ophthalmologists asking their experience with convergent squint. He classifies and discusses their answers, especially with regard to the diplopia following operation and untimate binocular vision. He then reports two cases in full, one that of a 10-year-old girl who began to squint in her fourth year and the other that of a man 35 years old who had squinted since early childhood.

Emphasis is placed on the value of fusion training, with the amblyoscope and stereoscope before as well as after the operation. The author's results were not perfect binocular single vision but such co-ordination that bar reading was possible and diplopia was easily obtained. Vertically placed prisms were necessary at first.

The Present Status of Electrotherapeutic Measures Used in the Practice of Otolaryngology. Beck, J. C., and Pollock, H. L. *Ann. Otol. Rhinol. and Laryngol.*, 1925, xxxiv, 403.

Electricity and rays of certain types have a distinct therapeutic value but in order to obtain the maximal desired effect their action must be thoroughly understood.

The currents most extensively employed in medicine are the galvanic and faradic currents. These are used chiefly to stimulate muscles the controlling nerve of which has been destroyed and muscles which have become atrophied from disuse; also to test muscles for the reaction of degeneration.

A sinusoidal current is one the voltage of which resembles a sine. It is employed to stimulate atonic muscles without a reaction of degeneration.

The high frequency current is a current with an oscillation frequency above 30,000 per second. The general reaction from its use is an increase in metabolism and a decrease in the blood pressure. In the author's opinion, the local reaction is without benefit.

Leucodescent heat and diathermy have been widely used with gratifying results. Leucodescent heat is employed in the treatment of acute sinus infections, acute otitis media, acute cellulitis, gland infections, and furunculosis. Diather-

my is used to obtain a high degree of heat, intense hyperaemia, the absorption of an effusion, relaxation of muscular spasm, relief from the pain of neuritis, and sterilization of a chronic suppurative process.

Fulguration has been abandoned by the authors.

Endothermy or radiofrequency is a high frequency current with oscillations of millions. The small electrode does not coagulate the tissues but cuts through them and, though the knife is cold in the ordinary sense, it sears sufficiently to close any but the largest vessels.

The Percy cautery has been dispensed with by the authors except as a palliative agent. The electrocautery, when properly used, is of great benefit.

The electrical pulsator may have a beneficial effect in some cases as a psychic influence. Vibrators have very little therapeutic effect.

Ozone is no longer employed in otolaryngological practice.

The authors have abandoned also the use of electrolysis.

In hyperaesthetic rhinitis, furunculosis, hay fever and asthma, ultraviolet rays have proved of great value but in sinus disease are without benefit. Infrared rays have not been used by the authors in a sufficient number of cases to warrant an opinion as to their effects.

The X-rays are of value in the treatment of carcinoma, but the authors have never seen a true carcinoma cured by them. In sarcomata, their results have been good in a small percentage of cases.

The Recognition of Sinus Disease in Children,
Barlow, R. A.: *Ann. Otol., Rhinol. and Laryngol.*, 1925, xxiv, 378.

The development of the maxillary, ethmoid, and frontal sinuses begins at about the third or fourth month of fetal life. Often the sinuses are well developed by the end of the first postnatal year.

Acute sinus disease in children is accompanied by fever and general malaise. There may or may not be swelling of the external nose. Usually within three or four days the sinus ruptures intranasally, the pain and general symptoms are relieved, and only the profuse nasal discharge remains.

The most prominent manifestation of chronic sinusitis is a mucopurulent discharge from the nose. Eventually there may be manifestations of inflammation in the larynx, bronchi, and regional lymph nodes.

The diagnosis of sinus disease is based on the history, a discharge of pus from the nose, and roentgenograms. If possible, stereoscopic roentgenograms should be made.

In the author's opinion, medical measures are of little value.

Some Observations on Certain Forms of Chronic Sinusitis, Skillern, R. H.: *Ann. Otol., Rhinol. and Laryngol.*, 1925, xxxiv, 415.

There is no sharp line of deviation either clinically or pathologically between the acute and chronic stages of sinus disease. Chronicity depends upon interference with normal aeration and drainage which is due to natural anatomical peculiarities such as a long nasofrontal duct, deep

recesses, and partial septa, large rolled out middle turbinates, and roots of teeth extending into the antral floor, or it is acquired as the result of repeated attacks of coryza, and inflammatory changes in the sinus mucosa.

Disease of the true sinuses shows quite a difference in symptoms due to the anatomical configuration of the sinuses, their drainage and their position. In cases with the more common manifestations of chronic infections of the frontal sinus, the author believes it is far better to search for obstructions to aeration and drainage and remove them than to try to effect a cure by repeated lavage.

The author has practically abandoned the external method of operating as advocated by Killian.

The prognosis for a favorable outcome in the presence of a foul-smelling discharge is inversely proportional to the foetidity of the secretion. In such cases greater aeration and possibly the use of the curette may be indicated. After external rupture and fistula formation, intranasal procedures do not offer any possibility of cure.

In mild antrum infections early opening is probably the best treatment. For irrigation of the antrum only three menstra are now regularly used by the author, normal saline solution, alcohol, and silver nitrate in varying strengths.

The danger of needle puncture has been greatly exaggerated. The author believes that needle puncture, if properly done, will never be followed by alarming symptoms. Chronic antrum infection due to the spread of infection from a decayed tooth is relatively rare in the author's cases, occurring in probably much fewer than 20 per cent.

In chronic sphenoidal inflammation there is a great variation in the symptoms and signs. The most common is a vague intractable headache in the occipital region associated frequently with ocular disturbance and negative physical findings. A dull pain in the orbital region of the affected side is not infrequently noted. These symptoms clear up when the sinus is opened.

UROLOGY and SYPHILOLOGY

Edited by Rex Bolend, B.S., M.D.
1010 Medical Arts Building, Oklahoma City.

Dr. Lester Neuman, Washington, D. C., Journal A. M. A., Vol 85, No. 18: reports 40 cases all under forty years of age, of non-syphilitic Aortitis; the author states.

"After reading the comparatively scanty literature and noting with surprise the lack of attention given to the subject in standard textbooks, I was still somewhat hesitant to discuss again what should be a familiar and well understood disease. However, I have observed acute and chronic non-syphilitic aortitis so frequently usually after being classed as some other condition, that I feel justified in this presentation. It offers the opportunity to emphasize that many of the cases are of nonsyphilitic etiology; that aortic disease is much more common than generally supposed; that early diagnosis can and should be made, and that more attention should be given to the aorta in our routine examinations, it is to be regarded as a not uncommon disease commonly overlooked."

Doctor Neuman calls attention to 23 cases studied by Oetiker, in which he was able to demonstrate the organism in 20; he found streptococcus, staphylococcus, pneumococcus, influenza, and in one case, anthrax.

A careful study of this paper should put us all on guard, not to assume that all cases of aortitis are of leucic origin.

HAEMATURIA

Kretschmer, in Surgery, Gynecology and Obstetrics, reports study of 933 cases, in which diagnosis was made; emphasizes the fact that haematuria is only a symptom, but one which is regarded too lightly. It should always be considered as indicative of serious organic disease in the genito-urinary tract.

Kretschmer states, "Every case of haematuria should be subjected to complete, comprehensive genito-urinary examination, to determine, first, the origin of the blood, second, the cause of the bleeding.

There is never any justification for treating cases of haematuria on a symptomatic basis."

The cases reported in this series show the most common causes of haematuria to be tumor stone, tuberculosis and infection.

RENAL ANURIA

Caulk, in the Journal of Urology, states, "Expectant treatment should have a meager place in cases of calculus anuria; with proper cystoscopic manipulation, a fair number of stones may be removed, hence the anuria is completely relieved. In case of inability to promptly and successfully unblock the obstruction by cystoscopic technique, the surgeon not deceived by the patient's apparently safe condition, will promptly remove the offending stone or stones."

REINOCULATION AS A CRITERION OF CURE IN EXPERIMENTAL SYPHILIS.

Carl Voegtlin and Helen Dyer, U. S. Public Health service, report on a series of 36 rabbits infected with *T. Pallidum*, treated for a cure and attempts made to reinfect in order to establish the rule "Reinfection means a positive cure of syphilis".

After a great deal of careful and painstaking work their conclusions leave us very undecided.

The authors state, the reinoculation test, if positive, is fairly good evidence of a cure; if negative, it may indicate either (1) that the animal has not been cured or (2) that a cure has been effected, but on account of an acquired relative immunity the tissues are protected against the production of a chancre.

OBSTETRICS and PEDIATRICS

Edited by Carroll M. Pounders, M.D.
532 Liberty National Building, Oklahoma City

Baby Gets Most Health Attention. — Current Health Items, Hygeia, December, 1925.

The baby is the most popular member of the human race. The older generation has to demand its rights, but the baby gets his simply by smiling.

After an extensive survey into eighty-six cities of this country, the American Child Health Association, of which Herbert Hoover is president, has come to the conclusion that the infant is the best looked after of any age group. Where steps have been taken here and there to improve the health of the mother and youngsters who can run about by themselves, clinics and educational centers of the welfare of the baby are almost universal. The survey covered all the cities in the country with populations between 40,000 and 70,000 according to the 1920 census. Thirty-one states were represented. The results of this wide-spread attention on the part of communities to the welfare of babies, are being revealed in the declining infant death rate. The record for seventy-six cities shows that in the period from 1916 to 1920 there were ninety-nine babies dying out of each thousand born. In the period from 1921 to 1923 the corresponding number was eighty. This is a reduction of approximately 20 per cent. There are still marked differences in the rate of cities however, the records for 1923, the year prior to the survey, showing the maximum rate in one of the eighty-six cities to be one hundred and forty-seven deaths per one thousand births, whereas the lowest rate was thirty-eight.

While the Association urges no letting up in health work for babies, it does emphasize the desirability of more organized attention to mothers and older children.

In the average city of 50,000 it is said that ten mothers die from childbirth each year. Little progress has been made in lowering this death rate. Increased effort should be devoted to lessen the hazards of maternity. That there is room for improvement in this field of health work is indicated by the fact that in only a little more than half of the eighty-six cities have clinics been established for the examination and instruction of expectant mothers. In forty-one cities no organized prenatal service was found.

Therapeutic Results With Concentrated Scarlet Fever Antitoxin.—George F. Dick, M.D., and Gladys H. Dick, M.D., Journal American Medical Association, November 28, 1925.

It has been shown that scarlet fever anti-toxin may be refined and concentrated by the method used in the concentration of diphtheria anti-toxin, with an increase of potency and reduction in serum reactions, thus overcoming, in most part, the disadvantages of the anti-streptococcus serums. A minimum potency requirement has been established by the authors so that one therapeutic dose shall not exceed twenty c.c. in volume. The prophylactic dose should be one-half the therapeutic dose. The authors inject the anti-toxin into the muscles of the anterior aspect of the thigh. It is not felt that the time saved by the intravenous injections ordinarily justifies the increased danger to the patient.

In early cases the rash is the most convenient indication of the action of the anti-toxin. If the dose is sufficient the rash will be definitely faded within twenty-four hours and there will be a marked improvement in the general condition of the patient. Results were studied in a series of one hundred cases of scarlet fever in which the fifty most severe cases were selected for treat-

ment with anti-toxin and the fifty less severe cases were used as controls. The results were marked. Complications occurred in nineteen of the control cases and in only four of the anti-toxin cases. The serum was given at various stages of the disease. The authors feel justified in concluding that concentrated scarlet fever anti-toxin is of practical therapeutic value. Their work emphasizes the necessity of giving the anti-toxin early in the disease before complications have occurred and before too much damage has been done to the tissues. If administered early in the disease and in adequate dosage, the anti-toxin shortens the course of scarlet fever and reduces the number of complications and sequelae.

A Frequent Cause of Dyspepsia in Breast Fed Infants.—Kirsten Utheim Toverud, M.D., *American Journal of Diseases of Children*, November, 1925.

In a group of thirty-three infants who showed the usual symptoms, viz.: failure to gain, restlessness, irritability, constipation of loose frequent, foul smelling stools with mucous and fat curds or vomiting—it was found in each instance that the mother was secreting an insufficient amount of milk. When suitable supplementary feedings were given, a prompt disappearance of the symptoms occurred. The author believes that the usual dyspeptic symptoms occurring in infants can be explained on the basis of hunger. They are restless, sleepless, irritable and always crying. There seems to be abdominal pain and discomfort usually regarded as colic or cramps. These are symptoms of hunger. Hunger contractions occur in new-born infants before being fed and become sufficiently intense to awaken the sleeping infant and cause it to become restless and cry. The hunger periods are rather frequent. Nausea and vomiting are frequent symptoms of hunger, even in adults. Infants in general, vomit more readily than older people.

Action of Cardiac Stimulants in Circulatory Failure Due to Diphtheria.—C. W. Edwards, M.D., and Robt. G. Cooper, A.B., *Journal American Medical Association*, December 5, 1923.

The authors duplicated as closely as possible in the laboratory, conditions encountered in the sick room. For the purpose of producing change in the heart muscle, diphtheria toxin was employed. An attempt was made to imitate the slow absorption seen in the clinical conditions by injecting the toxin subcutaneously in small divided doses from .05 to .15 c.c. being injected every second or third day. Most of the dogs stood two or three injections, dying in from four to six days. The experimental procedures in most cases were confined to blood pressure measurements. In a few animals heart records were taken. After the experiment was completed a necropsy was performed. The results showed the importance of the early treatment of the circulatory failure that occurs in diphtheria.

The earlier the remedial measure are instituted, the better the results are likely to be. However even late in the course of the circulatory collapse the so-called cardiac stimulants still produce their

normal pharmacologic response. Only after the diphtheria heart had actually stopped did they fail to bring about beneficial results. If the circulatory failure has not extended too far, digitalis and pituitary preparations act well while if the circulatory collapse has become extreme, an intravenous injection of warm 10 per cent glucose solution given before any drugs are used is likely to be followed by favorable results. In many cases the glucose was practically life saving.

The time element seemed to be the most important factor in determining the success of the measures used. The earlier treatment was instituted the greater was the prospect of success.

BOOK REVIEWS

CHEMICAL PATHOLOGY. Being a Discussion of General Pathology from the Standpoint of the Chemical Processes Involved. By H. Gideon Wells, Ph. D., M.D., Professor of Pathology in the University of Chicago, and in the Rush Medical College of Chicago. Fifth Edition, Revised and Reset. Octavo of 790 pages. Philadelphia and London: W. B. Saunders Company, 1925. Cloth, \$8.50 net.

Professor Wells, in his preface to this, the fifth edition of a noteworthy contribution to the finer points of scientific medicine, states that, "In the five years that have passed since the fourth edition of this book was prepared, the development of interest and investigation in the chemical problems of biology and medicine has been greater, at least as evidenced by volume of publication, than in any previous five year period." This is sufficient warrant for a summing up of the myriad points brought out by hundreds of investigators, based upon literally thousands of experiments and deductions. The book is strictly a resume of the recent worth while advances made in a wide field, as well as inclusion of basic principles heretofore established. Pathology from the chemical standpoint is considered. Chemical changes taking place in pathologic conditions, and the causes of diseases are presented. Briefly, it provides the practitioner with fundamental bio-chemical knowledge and provides the laboratory worker and physician of exact scientific tendencies a single volume work not heretofore equalled.

APPLIED BIOCHEMISTRY. By Withrow Morse, Ph.D., Professor of Physiological Chemistry and Toxicology, Jefferson Medical College, Philadelphia. Octavo of 958 pages with 257 illustrations. Philadelphia and London: W. B. Saunders Company, 1925. Cloth, \$7.00 net.

This new work applies biological chemistry to clinical medicine. The technique by which conclusions were reached is care-

fully noted and worked out. Special attention is devoted to problems of metabolism. The book is a scientific, up-to-date production, but we can see no reason for inclusion of photographs representing various masters in the arts of biochemistry. However, this probably pardonable innovation does not detract from the real worth of the volume. Read and followed its teachings will be of inestimable benefit; disregarded, disaster will follow.

MERCURIAL INUNCTIONS.

When routine courses of mercury in the treatment of syphilis are entrusted to the patient, to be reported of course at suitable intervals, the mercurial preparation that now enjoys the highest favor is a carefully prepared ointment. The stomach of the patient is thus spared, and it is not a difficult matter to push the inunctions to the verge of toleration, thus obtaining the full mercury effect.

But most mercurial ointments are greasy, messy and ill-flavored. Moreover, unless they are put in capsules or otherwise in individual doses, the amount of mercury administered can only be determined by reference to the reduction in the size of the bulk package, or to the number of bulk packages used. These considerations account, we believe, for the professional popularity of cacao-butter blocks containing a definite grainage of metallic mercury.

Blocks of this description, called Mercurettes, are manufactured by Parke, Davis & Co., and supplied in packages that can be conveniently carried in the pocket. Each Mercurette contains 50 grains of metallic mercury, evenly distributed throughout the vehicle, and is doubly wrapped—in tissue and tinfoil. A sharp knife will cut through both wrappers in subdividing the Mercurette, so that what is not used at the time is not soiled in handling. See advertisement in this issue.

CARBON DIOXIDE AS AN AID IN GENERAL ANESTHESIA.

Personal experience has convinced John S. Lundy, Rochester, Minn. (Journal A.M.A., Dec. 19, 1925), that carbon dioxide in moderate concentration assists in producing anesthesia, rendering the anesthetic apparently safer and easier to administer. Carbon dioxide should be used in such concentrations as will produce optimal results, these vary with the individual and the type and stage of the operation. Too much carbon dioxide is worse than none, and care should be exercised to prevent more than 5 per cent. being used. The results thus far in a series of 1,350 cases in the Mayo Clinic are satisfactory enough to warrant further investigation by others in the use of carbon dioxide during the induction and maintenance and at the termination of ordinary general anesthesia.

THE INFLUENCE OF FOCAL INFECTIONS.

Notwithstanding that this paper by D. J. McCarthy, Philadelphia (Journal A. M. A., Dec. 19, 1925), is the result of a careful analysis of 500 of his own cases, all studied in detail by one clinician, the opinion in reference to the influence of the focal infections even in this group, are the impressions made on him by the results obtained in treatment, and, he says, are by no means facts, or to be taken as complete conclusive evidence of the direct causative relationship of focal infections to nervous or mental disease. McCarthy lays it down as a fundamental principle of therapeutics in mental and nervous diseases that, unless one has a definite theory of disease to work on, one need not expect results; to treat a mental state by drugs, or psychotherapy, is to do little less than the Christian scientist would do in the same cases. He holds that a man or woman who was sane, had always been sane up to one month ago and is now insane, indeed, that he or she is in grave danger of confinement to an insane asylum, must have some real cause for this condition, and that this cause must be a definite chemical poisoning, either bacterial or visceral in nature. Focal infections in the upper respiratory tract are present in a sufficiently large percentage of cases of the psychoses and neuroses to warrant the assumption of a casual relationship between the focal infections and the disease conditions of the nervous system. Focal infections of and by themselves are probably the cause of the psychotic or psychoneurotic condition in only a relatively small percentage of cases. In the vast majority of cases, the focal infections process acts on an already existing condition of undernutrition, anemia, endocrine, imbalance, etc. Focal infections appear to produce much more marked nervous symptoms and to produce them with greater frequency in individuals with arterial hypotension than in those with normal blood pressure or an arterial hypertension. This is, in all probability, an endocrine reaction.

PELLAGRA ASSOCIATED WITH ANNULAR CARCINOMA OF THE TERMINAL PORTION OF THE ILEUM.

Franklin R. Nuzum, Santa Barbara, Calif. (Journal A. M. A., Dec. 12, 1925), reports two cases in which well defined skin lesions were present, and a diagnosis of pellagra had been made by dermatologists. At death in each instance an annular carcinoma of the terminal portion of the ileum was found. Nuzum says that these instances of disturbance in nutrition as the result of mechanical obstruction of the small bowel give added weight of the dietetic origin of this disease.

ADENOMATOSIS, OR THE DIFFUSE ADENOMATOUS GOITER.

J. Earl Else, Portland, Ore. (Journal A. M. A., Dec. 12, 1925), asserts that adenomatosis of the thyroid is a definite pathologic entity differing from adenoma in that the process is diffuse and does not have a true capsule. Adenomatosis produces a hyperthyroidism of the cardiovascular type. It is important to differentiate between adenoma and adenomatosis because the former requires simple enucleation of the tumor growth, while the latter requires subtotal double lobectomy.

RECURRENT TYPE I PNEUMONIA

Lawrence A. Kohn, Rochester, N. Y. (Journal A. M. A., Dec. 12, 1925), cites the case of a man aged 20, who had first had pneumonia at the age of 9, and four other attacks of varying severity, all in the spring of the year, followed before he was 15. In none of these was the sputum typed. There were no other data of importance in the past history save that one afternoon in the spring of 1924, while doing light work, he had coughed up blood. Roentgenograms of his chest at that time had shown no definite evidence of disease, and after a three weeks' rest in bed, he resumed his normal life. For two months prior to admission, he thought he had tired more easily than before, but he had held his weight and had not coughed until ten days before admission. The morning of his admission, Nov. 19, 1924, he coughed up about one-half glass of dark blood. Examination was practically negative. The clinical pathology was normal, and he raised no sputum that could be examined. He was discharged November 24. March 19, 1925, following exposure to a draft, he developed sensations of warmth, sweating, headache and shivering. In the morning he had an unproductive cough and pain in the right chest. He was only moderately ill. Blood culture, March 21, was positive for Type I pneumococcus with less than one organism per cubic centimeter. No tubercle bacilli were found. He had an uneventful convalescence. He was admitted for the third time, May 2, 1925, complaining of pain in the left side. He was extremely ill. Sputum was blood-tinged, negative for tubercle bacilli and showed Type I pneumococci on mouse inoculation. His convalescence was uneventful.

BIRTH INJURIES REQUIRING ORTHOPEDIC TREATMENTS.

Samuel W. Boorstein New York (Journal A. M. A., Dec. 12, 1925), points out that many permanent injuries are traced to parturitional trauma. Many of these injuries can be diagnosed at birth if careful examination is made. The obstetrician or the general practitioner should acquaint himself with the proper method of prompt diagnosis so that early treatment can be instituted where necessary. If he himself cannot diagnose the case, he should consult the orthopedic surgeon. The spastic cases should be treated at once even when we are in doubt whether the mental condition of the child will ever be normal. One cannot foretell how much mental recovery will be obtained. The armamentarium of the obstetric service in the hospital should include the braces of wire splints necessary for immediate attention in these cases. Cases of intracranial injury are treated by a double Thomas abduction frame with arm attachments. Obstetric brachial paralysis is best treated by a plaster or an abduction splint keeping the arm in abduction and outward rotation. Later on, massage and exercises are instituted. Fractures of the femur and the humerus are treated with a small Thomas Jones splint. Fractures of the spine are treated by means of a Bradford frame. Torticollis is prevented by a felt collar around the neck.

URINARY CALCULI.

The chemical composition and structure of urinary calculi in relation to radiography is discussed by Daniel E. Shea, Hartford, Conn. (Journal A. M. A., Dec. 19, 1925). He says that the relative opacity of a urinary calculus depends on the total molecular or atomic weights of its constituents and is influenced by its structure and thickness. Some urinary calculi having constituents of low atomic weights are negative to the roentgen ray. These include stones composed of uric acid, urates and triple phosphate. The diagnosis of urinary calculi should not be guided entirely by radiographic reports. Cystoscopy and urography are very necessary as well as valuable adjuncts in the diagnosis of urinary calculi.

TOTAL AND SUBTOTAL RESTORATION OF THE NOSE

To be acceptable, a surgically reconstructed nose, says Vilray P. Blair, St. Louis (Journal A. M. A., Dec. 19, 1925), must be covered with smooth skin, have a normal contour, have an epithelial lining, and provide an adequate airway. Though not always necessary, a rigid support of bone or cartilage will usually add to the quality of the result. It is very desirable that the size and form of the new nose be in harmony with the particular face. Nasal reconstruction amounts to sculpturing with the live tissues for material, and this must be done in conformity with good surgical usage, combined with mechanical accuracy and some artistic feeling. Blair describes his method of procedure.

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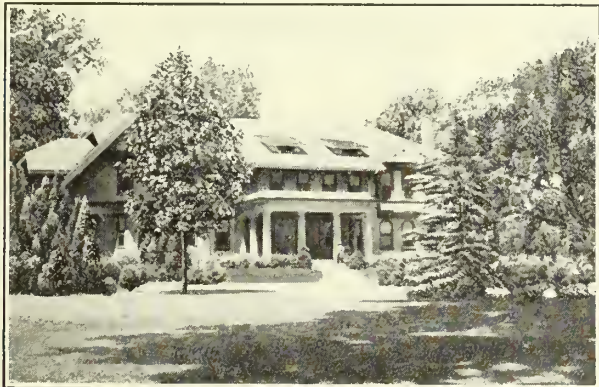
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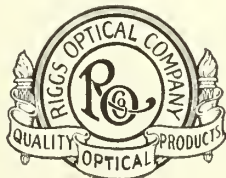
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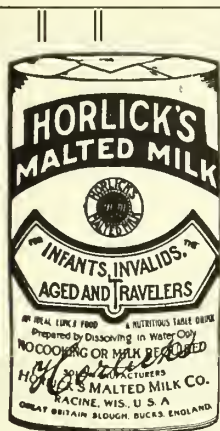
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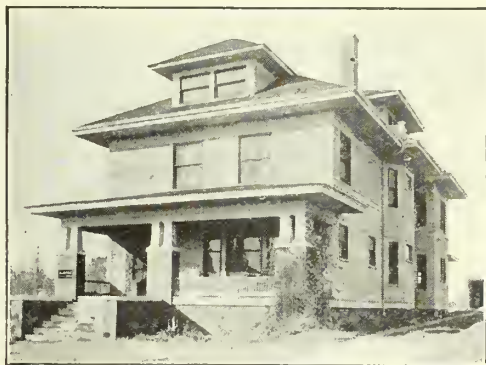
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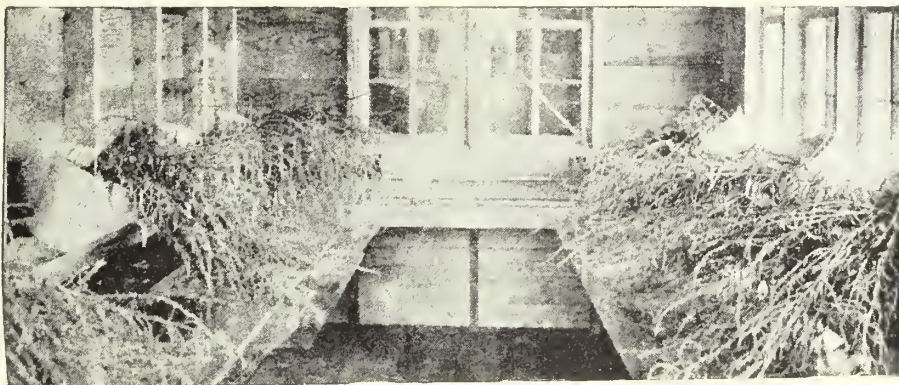
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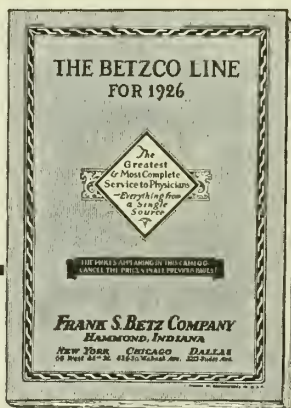
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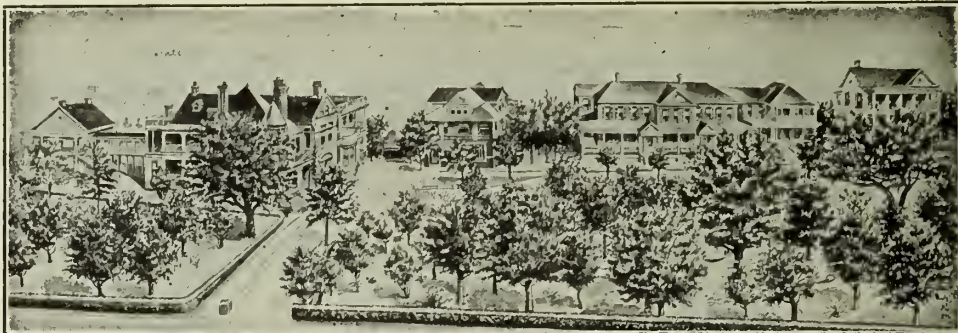
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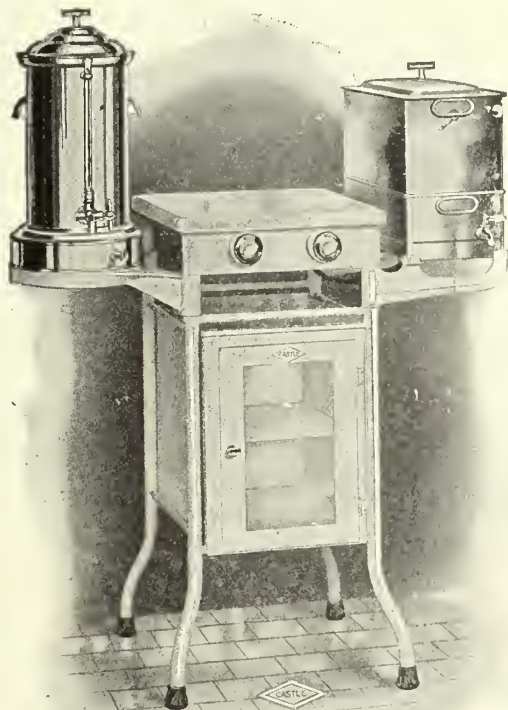
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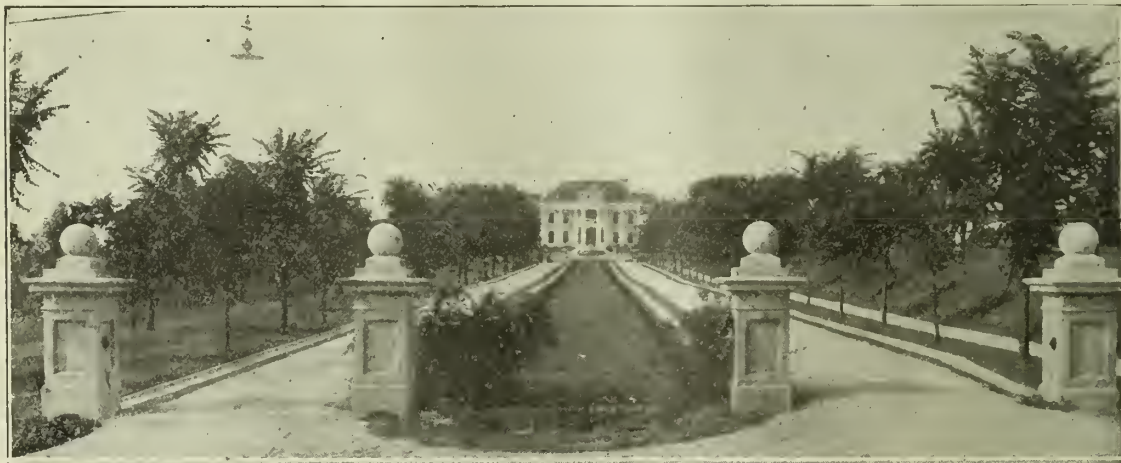


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The bill of particulars filed in connection with the suit states that [redacted] and Dr. [redacted] were consulted by the youth because of a broken leg. It further states that the two physicians handled the case so that the boy rapidly became worse and a permanent disability is now a fact to be regretted.

broken... the two physicians... so that the boy rapidly... and permanent disability... liable to result. Three points are included in the bill, each charging that the doctors improperly handled the injury to such an extent that the youth has been greatly damaged as the result.

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she became violently
result of being
inst Mrs
formerly em
buntown theater, has
a Superior Court for
T against Dr, ~~_____~~
who was asserted to
ie
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heater required
ed and that Dr
employed to ad
She said she
of the pro

**DOCTOR SUED FOR
\$100,000**

Man Asks Damages;
of ~~Physician~~ Physician
July 21

July 21—Dr. [redacted] was
[redacted] defendant in a \$100,000
[redacted] age suit filed today by [redacted]
[redacted] of the estate of [redacted] adminis-
[redacted] deceased. [redacted]
[redacted] the petition, [redacted]
[redacted] physician, [redacted] charges
[redacted] and unprofessional in
[redacted] for his wife when she gave
[redacted] a child in November of
[redacted] [redacted] man charges
[redacted] [redacted] [redacted]

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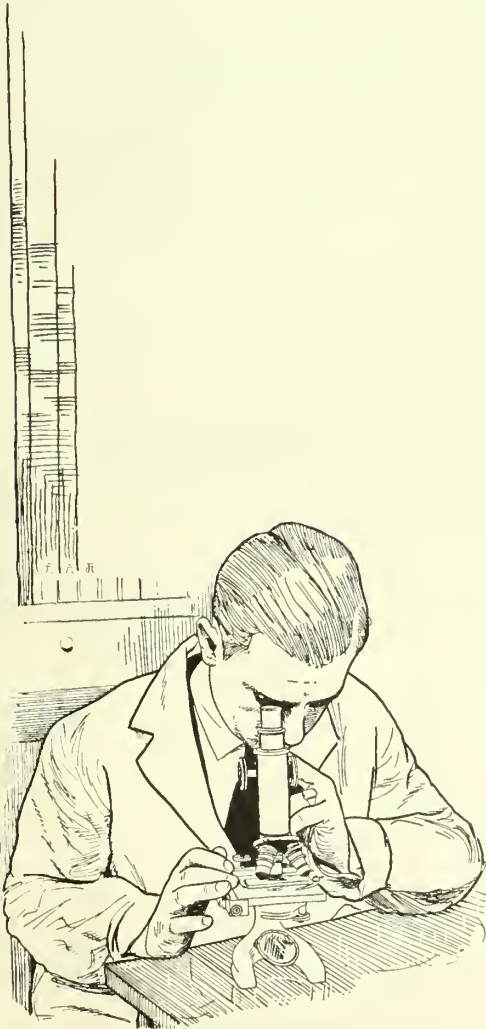
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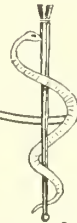
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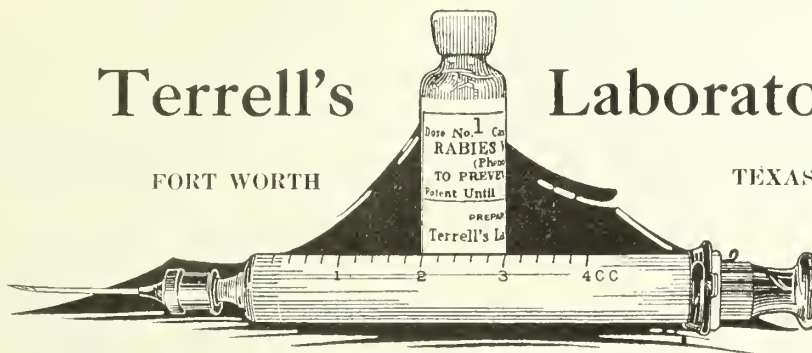
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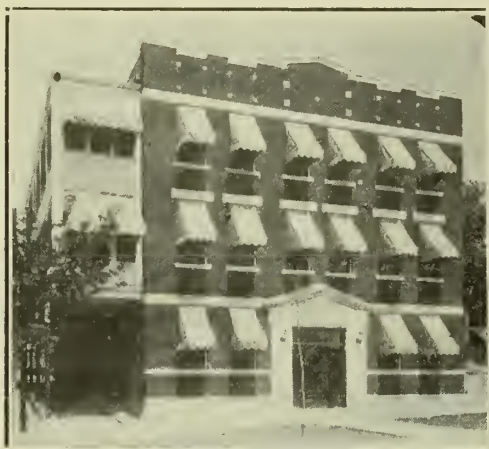
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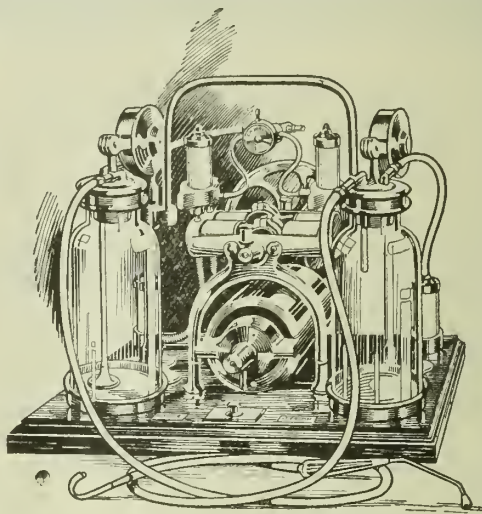
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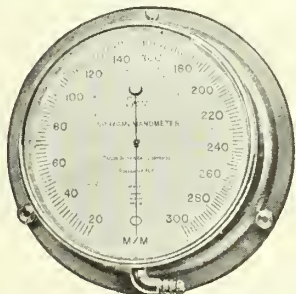


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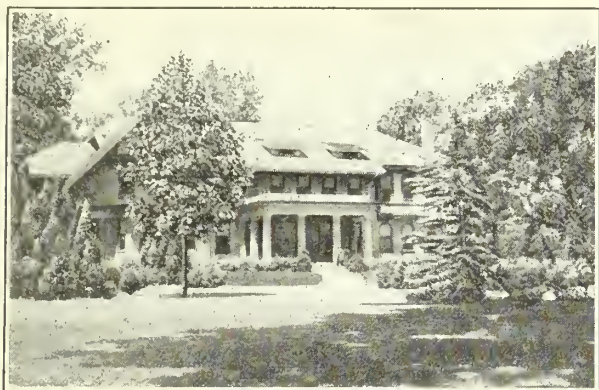
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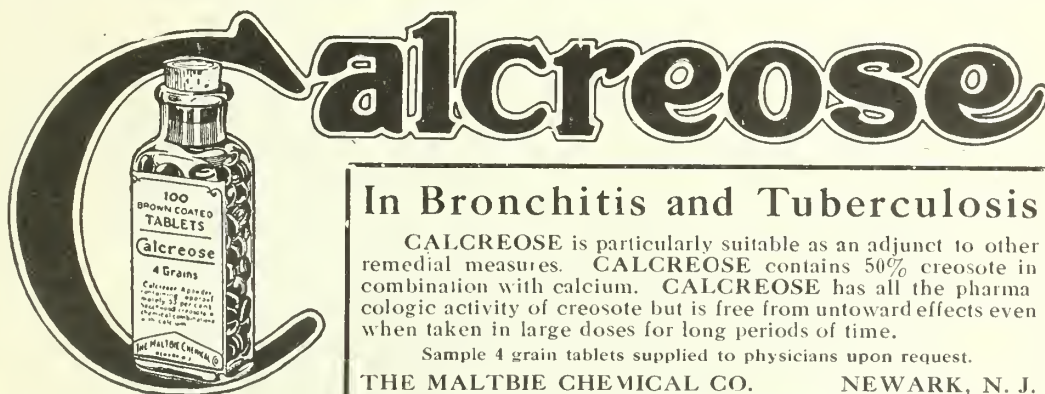
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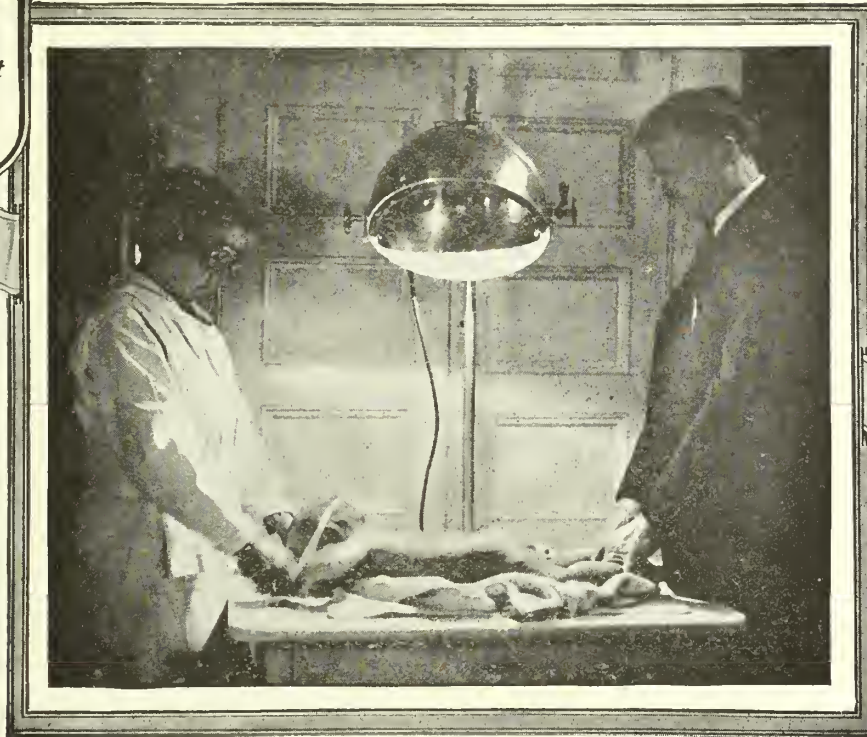
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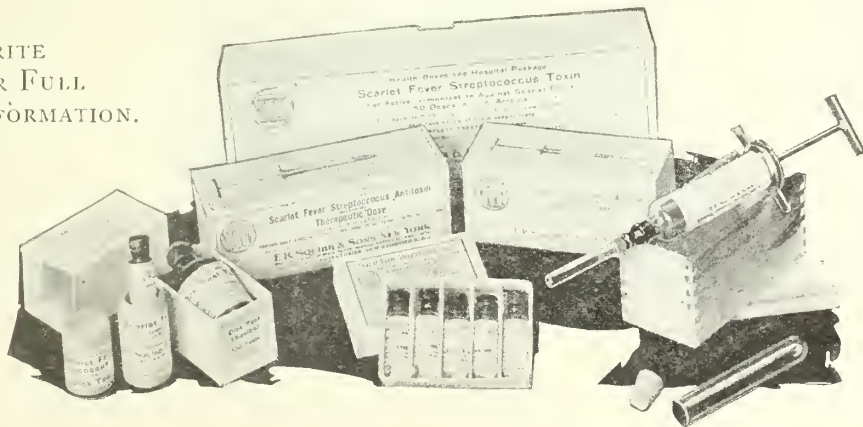
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OF THE
OKLAHOMA STATE MEDICAL ASSOCIATION

VOLUME XIX

MUSKOGEE, OKLA., FEBRUARY, 1926

NUMBER 2

ANATOMY AND PHYSIOLOGY OF THE SEMICIRCULAR CANALS*

THEODORE G. WAILS, B.S., M.D.
OKLAHOMA CITY

I need say nothing of the first five senses. With the sixth, or muscle sense, you are probably also familiar. The sixth is concerned chiefly with gauging distances, comparing weights and measures, performing co-ordinate movements, and keeping one cognizant of the orientation of his own limbs, i.e., it has to do with *deep* muscle sense and is co-ordinate with the superficial sense of touch. It is necessary to mention the sixth sense, as some of its functions are rather closely allied with the seventh.

The seventh sense has as its end organ the hair-like nerve filaments around the crista in the ampoulla of the semicircular canals, and around the maculae of the saccule and utricle. These hair cells are exactly analogous to those in the organ of Corti, they are covered with a protecting membrane like the tectorial membrane of the cochlea, the cupula covering the crista of the semicircular canals, and the otolith membrane covering the maculae of the saccule and utricle.

These hair filaments are also stimulated by waves in the endolymph just as those in the cochlea, except the origin of the stimulation is different. The general location and nerve supply of this region I shall not mention as you are familiar with it. One thing of importance to remember is the planes of the canals. An easy concrete way of keeping this in mind is—when considering the right side, place the right hand, palm up, with the fingers pointing 30° up off of the horizontal, then bend the left hand with the fingers at right angles to the palm, and place the left hand on the right so that the palm is in the vertical saggital plane and the fingers are in the

vertical frontal plane. The right palm now is in the plane of the horizontal canal, the fingers of the left hand may be considered for clinical work to be in the plane of the anterior vertical or superior canal, and the palm of the left hand may be considered to be in the plane of the posterior vertical canal. To be exact their two last planes are not in the saggital and frontal planes, but are rotated counter clockwise from these planes about 30° . However, since these two canals join in a common crus and because of this are never stimulated separately, the resulting phenomena of a stimulation is the algebraic resultant of the sum of the stimulation of the two, and directed toward the plane of the canal most stimulated.

The macula of the saccule is stimulated by forward and back linear motion; that of the utricle by side to side linear motion, and both by vertical linear motion. The horizontal canal is stimulated by rotatory motion around a vertical axis; the anterior vertical by rotatory motion around the horizontal axis in the saggital plane, and the posterior vertical by rotatory motion around a horizontal axis in the frontal plane.

The seventh sense has to do entirely with our orientation to space whether it be rotatory or linear, and for this reason is called the static-kinetic sense.

Climbing up our phylogenetic tree we find the static-kinetic sense first manifest in the snail. He has a pit in the side of his ear which is to be our saccule and utricle later on, and he rakes a few grains of sand into this which act as an otolith membrane.

In the fish this organ has advanced somewhat and can now not only keep the fish orientated in linear motion, but has an added function of detecting variations of pressure in water, and serves him, much as our cochlea. This function is not so keen in the human as in the fish, since our cochlea has taken the place of this function called barasthesia or seismoasthesia.

These last named being the connecting link between the static-kinetic sense which

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was the primary manifestation and now found in our vestibule and semi-circular canals, and hearing which is a later specialized adaptation of the 8th nerve to detect sound waves, rather than to coarser variations of pressure.

In no other sense are the results of stimulation so *objectively* manifest. The two results are vertigo and nystagmus. While vertigo itself is subjective, the falling and past pointing which are measure of this vertigo are objective and cannot be simulated. The nystagmus is also objective, involuntary and cannot be stimulated. For this reason these two phenomena are important considerations in the examination of suspected malingerers.

The normal reactions are as follows: the head is tilted forward 30° and the patient is rotated from left to right, ten times in twenty seconds. At first from inertia the endolymph lags back, or relatively moves in the opposite direction, and the patient is aware even with eyes closed that he is turning to the right. Now, after about 7 turns the endolymph in the horizontal canal catches up and if the patient has his eyes closed and the chair does not squeak he will seem to be standing still, because there is relatively no difference in the motion of the patient and the endolymph. Now, if the chair is brought to a stop quickly, and quietly, the inertia of the endolymph keeps it still in motion from left to right. However, since the patient is still, the relative difference in motion between the patient and the endolymph is: the patient going to the left and the endolymph to the right, since the patient always seems subjectively to be traveling in the opposite direction to the current of the endolymph. Therefore if the patient's eyes are closed and the chair has been stopped properly the patient will immediately say, "Now, I am turning to the left," whereas, he actually is sitting still and the endolymph still flowing to the right.

This is the subjective sense of vertigo, and can be measured accurately by the past pointing tests, i.e., the patient extends his arm horizontally in front and after touching the examiner's finger closes his eyes and lifts his arm vertically and attempts to place his finger again on the examiner's finger. Since he seems to be moving to the left, objects before him appear to be moving to the right, so he immediately brings his finger down far to the right

of the examiner's, in the attempt to catch up with the examiner's finger which seems to him to be moving to the right. Thus he past points to the right or in the direction of the flow of the endolymph in his own horizontal canals.

The phenomena of falling is also simple—he seems subjectively to be falling to the left and in order to regain his equilibrium he straightens to the right, since he has in reality been standing upright and still, he now falls to the right. Therefore since his subjective vertigo is to the left or opposite to the endolymph flow, the objective phenomena of past pointing and falling are to the right or in the same direction as the lymph flow.

The second phenomena or nystagmus is explained in this way—the eyes are held entirely in equilibrium by the action of the semi-circular canals, one side opposing the other, leaving the external ocular muscles free to move the eyes as they wish; just as an object would be free to move if a force equal to gravity were to oppose it.

Taking the horizontal movements of the eye as an example, the right horizontal semi-circular canal exerts on the eyes a strong pull to the left, and the left canal an equally strong pull to the right.

Now if the right horizontal canal is suddenly disturbed and not able to perform its function the left canal which is undisturbed immediately begins pulling the eyes to the right, so they follow the external objects which seem to be moving to the right. This goes on until the cerebrum finally discovers that the eyes are entirely out of equilibrium so it immediately sends word to the proper extrinsic muscles which immediately and quickly jerk the eyes which were slowly moving to the right, back to to the mid line. The eyes are then slowly pulled to the right because of the disturbed ears, and are quickly jerked back on the order of the cerebrum. This nystagmus has unfortunately been named after the cerebral return or quick component rather than the slow component, and in the above case would be called nystagmus to the left.

Therefore if we stimulate the right horizontal canal by turning the patient from left to right ten times in twenty seconds, causing a current to be formed in the endolymph flowing from left to right, we get as normal reactions a subjective sensation of vertigo as though we were turning to the left, we past point to the right, we fall

to the right, and have nystagmus to the left.

The anterior vertical canal works the same except the vertigo is a sensation of rotation to the left in the frontal plane, we past point beneath, we fall to the right, and the nystagmus is rotatory to the left.

In the posterior vertical canal the sensation of vertigo is rotatory down, we past point up, we fall backward the nystagmus is down. The last two canals being considered to have had a stimulation that caused a flow of endolymph from left to right, when in the horizontal plane.

Keeping in mind the position of the canals as before suggested, the above reactions can be produced equally well by douching the ear with hot or cold water; remembering, however, that the canal to be stimulated must stand vertical with this method rather than horizontal as it must be when producing the stimulation by turning.

Douching the horizontal canal held in a vertical position (head back 60°) with water 78°F for 40 seconds produces the same reaction as turning to the right 10 times in 20 seconds; and douching with warm water at 112°F produces the same reaction as turning to the left.

This last method also has the advantage that you can stimulate one ear at a time instead of both. The loss of one or more semi-circular canals by a peripheral lesion is gradually compensated for, so that at the end of one to two months the remaining side takes care of the equilibrium so that by the turning tests one might get normal reactions because of the good side, whereas by douching each ear separately this fallacy is soon discovered.

The vestibular nerve leading from each canal is composed of two components, the vestibulo-ocular and vestibulo-cerebello-cerebral. The first having to do with nystagmus, and the second with vertigo.

These parts separate directly upon entering the brain stem, so that one may have a central lesion affecting one part and not affecting the other. Therefore if one has spontaneous nystagmus without vertigo; or upon stimulation of the canals get one of the manifestations normal and the other absent, or a marked disproportion of the two, this suggests central lesion distal to the bifurcation of the nerve. If there is proportional mal-function of the vertigo

and nystagmus factors, particularly if there is also an impaired hearing on that side, the lesion is probably peripheral. Sudden marked vertigo and nystagmus, particularly if associated with suppurating middle ear disease is apt to be peripheral and will be compensated for by the unaffected side in from 1 to 2 months.

Slow gradual symptoms, uncompensated for in 2 months' time, particularly if there is disproportion between the vertigo and nystagmus, and always if there is spontaneous vertical nystagmus, are central; especially if the 3 cardinal symptoms of pressure are present.

These are the things that cause mal-functions of these canals:

1. Lesions in the ear.
2. Lesions in the pathways to the brain.
3. Certain eye conditions, particularly refractive errors.
4. Cardiovascular dyscrasias.
5. Toxemias.

Given a patient presenting himself because of dizziness, we know something is causing a disturbance of the canals.

The first thing to do is to consider mild toxemias; as auto-intoxication, alcoholism, medication, or infection; then the more violent toxemias such as syphilis, tuberculosis and mumps.

Next the canals and their pathways should be tested out, both qualitatively and quantitatively. I favor douching the ear rather than turning, because each ear is tested separately. For ordinary clinical purposes it is generally sufficient to test both vertical canals together since they have a common crus and the endolymph circulates freely in the two. However, the stimulation generally produces phenomena entirely referable to the anterior vertical rather than the posterior.

Since in some of the mild toxemias one may get only impaired function instead of complete loss, a quantitative estimation must be made.

If the patient is placed with head forward 30° and the right ear douched with water at exactly 78°F for 40 seconds there should be then produced a rotatory nystagmus to the left 26 seconds long. Now if this should be only 13 seconds long that would certainly suggest impaired function. If the head is now held back 60° , putting the horizontal canal in the vertical posi-

tion, and douched 40 seconds, there should then be produced a horizontal nystagmus to the left for 26 seconds with vertigo to the left and falling to the right and past pointing to the right about 12 inches. This same must also be done on the left side.

Then the four tests must be repeated (in the next day) by using hot water 112° F. which will produce the phenomena in the opposite direction 26 seconds.

Thus you can tell if there is any lesion of the ear itself, or its tracts. Now, if there is no lesion, then the vertigo is ocular; or a psychosis where normal reactions are misinterpreted,

The ocular lesion most apt to produce reflex vertigo is small amounts of astigmatism 15° to 30° off of the regular axis. These patients also generally are poor travelers.

In my opinion no diagnosis of brain tumor is complete, and certainly none should be operated without complete examination of the tracts of the semi-circular canals. If all twelve of these show normal reactions, that definitely rules out a lesion below the tentorium, or if certain groups of these tracts are impaired it definitely locates the tumor. More than that it is up to the ophthalmologist and otologist to pick up the abnormal physiological functions and diagnose and locate the tumor while it is yet operable and perhaps not as yet producing the three cardinal signs of pressure, i.e., headache, choked disc, and projectile vomiting.

The physiology of the semi-circular canals has been treated more or less like a step-child until within the past few years.

It is a consideration of first importance in selecting aviators; in dealing with sea sickness, in checking up objectively the results of treatment in intra-cranial syphilis, in localization of brain tumors; in the testing of malingerers, and in the every day clinical handling of patients suffering with vertigo.

To the man whose feet are covered with shoes, the entire earth is covered with leather, according to the Chinese saying, and to the man with a disturbance of the semi-circular canals the entire earth is unstable and wobbles tipsily about. So that from a hale, hearty, strong man, unafraid and confident, a sudden lesion in the semi-circular canals reduced him to a quivering, terror stricken mass of jelly, unable to stand or direct voluntary movements.

MESENTERIC VASCULAR OCCLUSION*

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A discussion of the rare and unusual in the wide field of surgery, or the reporting of a single case of any particular disease may be considered rather presumptuous; however, when we meet the so called "acute surgical abdomen" it is a factor to be considered in the diagnosis. The difficulty with which an accurate diagnosis is made, the danger attending a delayed operation, and the fact that all these cases are operative, these I think, are sufficient reasons to report a case of a fairly rare surgical disease of the abdomen, namely—Thrombosis of the mesenteric vessels followed by operation and complete recovery.

Mesenteric thrombosis has been known since its discovery in 1847 by Virchow. More recent studies and reports have been made by Jackson, Porter and Quinby, reviewing 214 cases. Welch carefully reviewed the subject up to 1900. Since 1913 40 more cases have been reported, making a total of about 400 with a mortality of 94 per cent. Up to 1900 only two cases had been successfully operated on with recovery. Only 4 per cent of cases were diagnosed preoperative.

Case Report. E. W., girl, age 18, senior high school student, was taken sick at 5 a.m., morning of October 4, 1924, with severe cramps and pains in upper abdomen, followed by nausea and vomiting. Pains radiating to McBurney's point in right side with rigidity of right rectus muscle. History of several previous slight attacks. Temperature 100, pulse 100, respiration 18.

Blood picture: Erythrocytes 4,270,000. Hemoglobin 80, color index 80, leucocytes 25,800, polymorphonuclear neutrophils 89 per cent.

Urine: Catherized specimen. Albumen trace, sugar negative, few granular casts, few red cells and few pus cells.

Diagnosis: Acute suppurative appendicitis.

Operation: Same day, October 4, 1924, at 11 a.m., six hours after onset. Right rectus incision. Appendix large, swollen,

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gangrenous at tip, ready to rupture. Appendix clamped, ligated and removed with actual cautery. Stump inverted, wound closed without drainage. Gas-oxygen-ether anesthesia.

Uneventful recovery except slight wound infection. Discharged from hospital October 13th (9 days post-operative). On October 23rd had a few cramps in abdomen relieved by enema. October 26th, went for a short automobile ride. At 4 a.m., October 27th, 23 days post-operative, while in bed, was taken with very severe pains in right lower abdomen, so severe they were almost unbearable. Not relieved by two hypodermics of morphine. Patient was prostrated, pale, cold. Pulse weak, rapid and thready. Vomiting. General rigidity of abdomen. At 11 a.m. had a distinct mass in right lower quadrant. Pulse weak. Anxious expression, Temperature 97, pulse 100, respiration 20.

Blood picture: Red cells 3,050,000. Hemoglobin 70, Color index 114, leucocytes 40,500, neutrophils 94 per cent.

Urine: S/g. 1030, albumen trace, sugar present 2 per cent.

Diagnosis: Acute intestinal obstruction. Advised immediate operation. Operation at 1:30 p.m. the same day, seven and one-half hours after onset of symptoms. Gas-oxygen-ether anesthesia.

Operation: Right rectus incision through previous scar. Few adhesions, considerable amount of free bloody serous fluid. Mass proved to be loops of gangrenous small intestine. The ileum from a point 8 inches from ileo-coecal valve extending upward for three and one-half feet was distended with a V shaped section of mesentery, all of a purple black color. No evidence of obstruction. The line of demarcation was sharp and definite. The coils of gangrenous intestine were brought up out of the wound, clamped and three and one-half feet of small intestine with V section of mesentery was removed. Ends of intestine closed and stumps inverted with purse string suture. Mesentery ligated with suture ligatures. A lateral anastomosis was made 4 inches from caecum. Raw surfaces covered. Abdominal toilet. Wound closed with two cigarette drains, suprapubic to culdesac. Time one hour. Pulse 140 to 160 at close of operation.

Post-operative treatment: Gastric lavage, followed by a Jutte Gastro-duodenal

tube inserted through right nostril. Hypodermoclysis by axillary supple 1000 cc. of n/saline with 10m. adrenalin. 20 units of insulin given to take care of acidosis and sugar in urine.

Post-operative diagnosis: Thrombosis of superior mesenteric artery with gangrene of three and one-half feet of ileum.

Prognosis: Very unfavorable.

The operation was followed by a rather stormy time. Saline given by hypodermoclysis, proctoclysis of glucose and soda. Morphine, digitalin by needle. Urine showed sugar present for two days. The Jutte nasal tube relieved the nausea, vomiting and gas in upper abdomen. This tube was removed on the 3rd day when the pulse was 102, temperature 99, respiration 20. Liquids were started by mouth and drains were removed.

The patient made a gradual recovery. Wound healed without infection. Dismissed November 9, 1924, 12 days after operation but was kept in bed two weeks more at home.

No recurrence or trouble to date, January 22, 1926 (17 months).

Pathology and anatomy: Mesenteric venous occlusion occurs in 40 per cent of cases. Mesenteric arterial occlusion occurs in 60 per cent of cases.

The great majority of cases involve the superior mesenteric vessels for the following reasons:

1. Superior mesenteric artery arises from aorta above inferior.
2. Superior mesenteric artery measures 9mm. in diameter.
3. Superior mesenteric runs nearly parallel with aorta.

Examination of lesion shows a thickening and edema of mesentery and gut, varying from small petechiae to large hematoma with complete occlusion gangrene and necrosis. Hemorrhagic infarction occurs in the vast majority of cases, the extent varying from small patches to the whole large and small intestine. The condition of the loop is practically the same as in a strangulated hernia. The coil is dark red, purple or blue black. Walls very much thickened because of infiltration of blood and serum. Intestine distended with gas and fluids. Microscopically it varies from a stage of engorgement of vessels and capillaries to infarcts with necrosis of tissues.

Diagnostic signs and symptoms:

1. Very severe colic-like pain.
2. Distention of abdomen with tenderness, tympanites and occasionally shifting dullness.
3. Rapid and excessive fall of temperature with weak, thready pulse.
4. Melaena with diarrhoea followed by constipation.
5. Persistent vomiting.
6. Palpable tumor.
7. Patient's faces manifesting grave constitutional disturbance.
8. Pre-existing disease, chronic infection, appendicitis, endocarditis, abscess, etc.
9. Age usually over 20 years.

Differential diagnosis: Intussusception, occurs in childhood, sausage shaped mass in left side or in rectum. Only bloody mucous in feces.

Volvulus: Symptoms practically the same, the extreme distention is rare in early cases of infarction.

Acute obstruction, especially following abdominal operations for appendicitis, etc., is impossible to differentiate. Symptoms not as grave or acute.

Acute pancreatitis, same symptoms, but no blood in stools.

CONCLUSIONS

1. Mesenteric vascular occlusion is not extremely rare. Over 400 cases reported.
2. Occlusion or thrombosis most frequent in superior mesenteric vessels.
3. Most common lesion is hemorrhagic infarction of intestine.
4. Most common cause embolism from infection.
5. Clinical diagnosis made on sudden onset. Acute severe colic-like abdominal pain, distention, tenderness, shock, collapse, vomiting, constipation. If diarrhea, almost always followed by melaena.
6. Treatment: Always operative, the earlier the better.
7. To make a positive preoperative diagnosis would only go to show the egotism of diagnostician.
8. I believe that a focus of infection plays a decidedly more important part in the etiology than we have thought in the past. When we consider the tremendous element infection has in the ordinary types of embolism and thrombosis, such as we have in the saphenous and pelvic veins, the lateral sinuses, etc., it is only reasonable to infer that the cases of mesenteric occlusion

sion are the result largely of some focus of infection as appendicitis, cholecystitis, intestinal ulceration, or even the much abused teeth and tonsils, or some other distant site of infection.

FOCAL INFECTION*

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There is not another subject within the realm of medicine which has been more discussed, abused and altogether manhandled and yet has meant so much for our patients as has the subject of Focal Infection.

Many, many perfect teeth, good tonsils, sinuses, mastoids, gall-bladder, appendices, as well as prostates, have been martyrs to the fanaticism of the enthusiasts. I say without fear of competent contradiction such has been the case, and strange as it may seem and sound to some of you, there are today in this state, men so poorly informed, they do not as yet grasp the idea that every one of the above named should be conserved rather than sacrificed and sacrificed then, only after every means at their command have been utilized and by examination and elimination arrive at a definite location of the focus of infection.

Many physicians do not recognize the etiologic relation to systemic disease of chronic foci of infection which is not manifest by extensive body disturbance, and as a consequence, many minor ills such as malaria, rheumatism, neuralgia and a few others are incorrectly diagnosed but in every instance may be eliminated by doing away with the chronic focus or foci of infection.

One of the best definitions of focal infection that I have heard is that it is a "Systemic or local disease due to infectious micro-organisms carried in the blood or lymph stream from a focus of infection." It may be either primary or secondary and may be either acute or chronic. A primary focus of infection is the tissue first infected from which the blood or lymph stream receive the pathogenic organisms which produce systemic or organic disease. The localized disease condi-

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tion is caused by the secondary focus, the local condition being due to the infecting or infective organisms inhabiting the primary focus. Tissues communicating with cutaneous or mucous surfaces are the most frequent sites of primary foci of infection, the most common being the nares and its accessory sinuses, the mouth, the middle ear, the pharynx, the mastoids, the teeth, and tonsils. Local inflammation denotes an acute focus while a chronic focus usually is without sign or symptom denoting or calling attention of the patient to the diseased part. I will not attempt in this paper the discussion of focal infection except in so far as it pertains to the eye, ear, nose and throat.

The infectious micro-organisms are disseminated from the focus of infection in the following ways:

THE BLOOD STREAM

The capillaries take up the infectious micro-organisms and carry them into the blood stream where they are then carried to the different parts of the body. The reaction at the point of lodgment of the organisms will be dependent entirely upon the character and virulence of the organisms and may be so severe as to produce gangrene.

THE LYMPH STREAM

The lymph channels take up the infectious micro-organisms and carry them along to the nodes where very often the infection is either held in check or rendered so much less virulent no harm results to your patient, but often the lymph nodes are unable to handle the infection and the infection then travels on with the blood stream probably also carrying the organisms to be lodged in tissues to later produce local disturbance.

Among the many conditions caused by focal infection of the head are rheumatism, headache, iritis, acute retinitis, ex-ophthalmus, choked disc, choroiditis, valvular heart disease, paraplegia, appendicitis, parapoplexy (slight form of apoplexy) and numerous other conditions. Practically every one of us remembers when rheumatism was first said to be caused by a focus of infection, and too, we remember the haste and eagerness with which the medical profession began the extraction of teeth and enucleation of tonsils. It's true that in a great many instances the rheumatic was relieved, but in many instances he was not, even after giving up his teeth and tonsils

all foci of infection had not been located definitely.

ETIOLOGY

The etiology is practically the same as for the different general infectious diseases, and are as numerous as the different pathogenic agents found on the skin and mucous surfaces. Infected food, drinks and over-exertion, lowered resistance, starvation, old age, alcoholic abuses, and many, many other conditions may give rise to the entrance of the infectious micro-organisms. The presence of an over-growth in the upper air passages, the adenoids and tonsils, increases the likelihood of focal infection in children. Carious teeth and pyorrhea increases the susceptibility of an individual to focal infection. The micro-organisms frequently found are: staphylococci, both the aureus and albus, streptococci, the hemolyticus, viridins, mucosus and rheumaticus, pneumococci, micrococcus catarrhalis, tubercle bacilli, fusiform bacilli, diphtheria bacilli, pyocyaneus, colon bacilli, tetanus bacilli and meningococci. Billings says, "It's rational to presume that the character of the invading pathogenic micro-organisms which cause a brief inflammation of the focal tissue and a transient systemic disturbance are not very virulent, or the degree of the resulting bacteremia is not very great, or finally that the natural defenses of the body are sufficient to overcome the invaders in a short period of time. On the other hand, some peculiar pathogenicity of the micro-organisms may result in distinct damage to the distant tissues."

DIAGNOSIS

Sometimes in the diagnosis of focal infection your ingenuity is taxed to the utmost and you are only able to locate definitely the focus of infection after a complete history of the patient has been obtained, the X-ray and laboratory have been utilized and consultations held with specialists in other lines. With me, the diagnosis is never easy and I am inclined to believe along with a great many others that the surface has only been penetrated in our studies of the subject and that the next ten years will materially increase our knowledge as well as efficiency in handling this important part of our every day work.

As the tonsil has been found to be the most frequent site of foci of infection, they will be taken up first. The hypertrophied tonsil so frequently found in children is

the less dangerous of the different types of tonsils and is not so often the site of focus of infection as the small, flat or "button type". In the hypertrophied tonsil, the crypts are usually open and the excreta drains out into the throat, while the small flat, or "button type" tonsils, because of their hard, smooth surface seals up in the crypts their excreta, where it is taken up both by the blood and lymph streams and carried throughout the entire system. In a large per cent of these cases, the anterior pillar is hypertrophied and proper inspection of the tonsil is only made after the pillar is retracted and the tonsil brought into view.

The stump of a tonsil may be the site of a focus of infection, as I will report later in this paper and should always be looked upon with suspicion and removed.

In the case of the accessory sinuses when acute infection is present the pain and discomfort pointing to that particular part makes diagnosis easy, but when chronic infection is present, the mode of procedure is different calling for not only the use of the transillumination but often the X-ray as well as laboratory.

The naso-pharyngeal adenoids are not *per se* the usual site of foci of infection but due to their location may be a material factor as regards the sinuses and the middle ears.

The teeth are very important factors in focal infection and when my patient is either very young or past middle age, I always insist they see a dentist and then if not satisfied with his report, have the teeth X-rayed, I rely a great deal more on the roentgenologist's report than the dentist's report.

TREATMENT

The treatment will depend entirely upon the location of the focus or foci of infection and is best left to your own judgment as to the mode of procedure, because to try to detail to you a line of treatment for each one, would call forth probably as many different opinions as there are men in this room.

I wish to report a few cases that were of interest to me and demonstrate a few of the conditions that resulted from focal infection, they are not unusual and there is a probability some of you have had cases that were unusual, if so, I will appreciate your detailing them in your discussion of my paper.

Case I. Mrs. G. R. B. Age 74. I was called in consultation 9/14/1919 to see this lady, because her family physician suspected her tonsils were the focus of infection. She was bedfast with rheumatism with its many sequelæ present and manifest. Her teeth were extracted while in Hot Springs, Arkansas, where she had been taken on a cot and had been "boiled out" repeatedly, but even this had not benefited her, she had never had tonsillitis and at her age, you would naturally expect to find her tonsils atrophied, but such was not the case. Her tonsils were average in size and were filled with pus. Enucleation of the tonsils and extraction of a broken-off tooth cleared up her rheumatism in three weeks' time. She has not had a recurrence of her trouble since then. I might say in passing, this broken tooth did not seem to be involved in any way, as there was no indication of any pathology.

Case II, R. R. Age 51. Consulted me first on February 2, 1920, at which time he was complaining of his right eye. Examination revealed a condition of the lids resembling trachoma to such an extent I made a diagnosis of trachoma. The right eye had an intense and acute iritis of one week's standing. He had the nastiest, foulest mouth I have ever encountered, with pronounced pyorrhea. He was referred to a dentist who cleaned his teeth, treated his gums and extracted two upper teeth. The next time I saw him was two weeks later when he came in to show me his eye was well and his trachoma gone. In nearly every instance where I have had an eye condition due to the focus of infection being in the teeth and the patient is referred to a dentist, that is the end for the need of an oculist and I lose a perfectly good patient. I have seen the above named man a great many times since 1920 and he has not been bothered with his eye at any time.

Case III. Mrs. L. H. B. Age 55. This woman first consulted me in 1915 relative to changing her lens. At that time, she had a slight ex-ophthalmus of the left eye but did not complain of the eye hurting. The vision was corrected with lens and I did not again have occasion to examine her until some time the latter part of 1919.

At that time the ex-ophthalmus was very pronounced in the left eye (the right did not show any ex-ophthalmus then or at any later time) and her vision was very poor, 20/200 with glasses. She again got

away from me and the next time I saw her was in April, 1920, at which time she told me she had been under another oculist's care in McAlester, who had pronounced her condition glaucoma and had advised enucleation of the eye, to which she would not consent. After this advice, she went to Toledo, Ohio, where she was examined and treated but no definite diagnosis made. Her teeth had all been extracted some years before her present trouble. Examination showed a tender maxillary sinus on the left side and the X-ray showed the maxillary sinus sphenoid and ethmoids all involved on the left side. Operation on May 5, 1920, confirmed the diagnosis, and repeated examinations since show the exophthalmus gone and the vision in the left eye normal with glasses.

Case IV. Miss M. A. Age 20. A school teacher, was brought to my office by her family physician, June 30, 1924, with the following history. About four days before this she had waked during the night and found she could raise her right leg and arm slightly and had an intense headache. Her physician was called and found she had a paraplegia of the right side and was more or less blind in both eyes, the vision in the right being better than in the left.

At the time she came to my office, she was able to use her hand and leg but the motion was slightly retarded and she had to be very deliberate. Examination of her eyes showed an acute retinitis with choked disc on both sides, the left being more pronounced than the right. She had several teeth which were bad so I referred her to a dentist who extracted four teeth that day and three more on July 3. She was wearing glasses at the time she came to my office but these were not improving her vision as her vision at that time was less than 20/200. Within a few days after her teeth were extracted her vision began to improve and the retinitis and choked disc quickly disappeared along with her constant headache and on September 2, 1924, her condition was normal and has remained so since that date. She does not now wear glasses. In connection with this case, I might mention that this young lady was operated September 20, 1923, for acute appendicitis and at operation, the appendix was found to be acutely inflamed.

Case V. Miss A. P. Age 23. A nurse, while in training suffered numerous attacks of appendicitis as well as gall-bladder

trouble. Several times an operation was decided upon but for some reason or other, it was not done; she was also bothered with an occasional attack of rheumatism. In 1921, she was taken down with rheumatism and could not get out of bed. Her physician found her tonsils were infected and was able to demonstrate pus coming from them. She was brought to my office, her tonsils removed and she made a speedy recovery from her rheumatism, was back on duty in five weeks and from that day on, she has not had any rheumatism, appendicitis or gall-bladder trouble, showing conclusively her focus of infection was in her tonsils.

Case VI. A physician, Dr. J. A. S. Developed peritonsillar abscess in 1917. Early in 1918, he had his tonsils removed. In the summer of 1918, he developed rheumatism in his wrists and knees. Upon examining his throat, I found a small stump of tonsil on the right side in which was a small abscess. I evacuated the pus and he improved steadily until his rheumatism was practically all gone, when he developed another abscess in this same stump. Two weeks after this was again evacuated, I removed this stump of tonsil with the result that he had no more rheumatism up to 1922 or 1923 when he removed from McAlester.

THE MIND DISEASED*

ARTHUR LEMUEL STOCKS, M.D.,
MUSKOGEE

At first glance it may seem presumptuous, if indeed not an effrontery for one who for eight years of the last twenty-nine has limited his practice to Dermatology and Radiology, to have the audacity to present a paper to this section on Psychiatry. My excuse, if one be needed, was the urgent and oft repeated request of your chairman who for twelve years has had ample opportunity to know the limitations of what ability I may have, but a greater excuse is contained in the premise that notwithstanding, I am limiting my work, yet in study and observation I refuse to be segregated and told to cultivate only my little patch in the great domain of medicine. During the last eight

*Read before the Section on General Medicine, Neurology, Pathology and Bacteriology, Annual Meeting, Oklahoma State Medical Association, Tulsa, May 12, 13, 14, 1925.

years as Secretary of our County Society, I have repeatedly had occasion to emphasize that the Surgeon, Urologist, Ophthalmologist, Dermatologist or Radiologist who has no interest in general medical discussions as they take place in the County Unit, has, necessarily, a narrow view of the diverse and manifold way pathological processes express themselves.

Interested, as I have been, for many years in the operations of the mind, normal and otherwise, it has been my good fortune for nearly fifteen years to serve on the lunacy board, in a somewhat densely populated community, during which time many hundreds of cases have been passed upon wisely, or otherwise.

I am not here in any sense as an alienist and shall not go very deeply into the minute details of the many psychoses, organic or functional, that affect the human brain.

If I am successful in interesting the general practitioner to a realization of the fact that the greatest foe of civilization today is the abnormal functioning of the mind, and allied disorders, and that these conditions are responsible for more disabilities among human beings than *any* others, I shall feel amply repaid for the effort.

The operation of the draft preceding our entrance into the World War revealed a startling situation, of the extraordinary and unsuspected prevalence of mental defects and of disorders of the emotions and will among the young men who were drafted. Seventy-two thousand young men were rejected for mental and nervous instability and many thousands more who were certified and inducted into military service were found absolutely unfit. The British report showed that 20 per cent of their discharges for disability during the war, were for nervous instability and I am creditably informed that one-third of all disabled ex-service men hospitalized in the United States are classed as neuropsychiatric patients; and tens of thousands not hospitalized are partially disabled from the same cause. The so-called shell shocked cases in men who have never been within the sound of cannon have their analogy in the experience of every practitioner. The functional neuroses and neuropsychoses are responsible for an untold amount of disability, inefficiency, failures and suicides, and unfortunately there are few practitioners who are prepared with

knowledge and sympathetic understanding to whom these patients can appeal for advice and direction.

As a boy, I recall an article by a scientist to the effect that in a comparatively short time all the fuel of the earth would be consumed, and the heat of the sun used up and the earth return to the glacial period. As a race, we have paid no more attention to this than to the oft repeated statement that insanity and nervous instability are tremendously on the increase, so much so that by the end of the present century there will not be enough well people left to support those who are incapacitated from neurological and psychiatric disturbances to follow a gainful occupation. Not a state in the Union can build asylums fast enough to find room for those actually dangerous to themselves or the community and if it were decreed that all who deviate from the normal in their mental machinery should be incarcerated in an asylum, the great question would arise, "Who shall hold the keys?"

During the past fifty years, the insane population has increased 155 per cent, and this does not include the mentally deficient, the degenerate, and the habitual criminal, who have increased 300 per cent. If this state of affairs is permitted to go on, and hereditary taint like a rolling stone, gathers momentum as it goes, it does not take much of a mathematician to figure the time when all mankind will be either mentally deficient, degenerate or insane. It has been estimated by competent authority that if the present rate of increase in insanity in the United States and Canada continues for the next two hundred years, in most communities there will not be a sane person left. Granted that these statements may be a little overdrawn, we cannot escape the fact that the increase is alarming, and that the breeding strain in our population has greatly deteriorated so that the expectancy of mentally and physically normal children in any family has been greatly lessened.

Those of you who had experience in the draft, must have been impressed that if we had applied the same skill as the chicken fanciers, most of these humans would have been thrown out as "culls", and as man is an animal and subject to the same laws of procreation as the rest of the animal kingdom, where, may I ask, are we bound? "Do men gather grapes of thorns, or figs of thistles?"

Is it not the duty of organized medicine to take some steps to inform the public of the prevalence of abnormal thought, feelings and behavior of the inhabitants of these United States? If the public fully realized how much insanity, mental deficiency and criminality really existed, and how much could be prevented by the adoption of wise measures of mental and physical hygiene that are practicable even in the present state of our knowledge, I feel sure that the apathy existing would be dispelled by a zeal and enthusiasm which would result in better legislation regarding the propagation of defectives and some material changes in our educational system, whereby more attention would be given as to "how" a student thinks, than to "what" he thinks.

The need of greater emphasis of the idea was recently revealed by the fact that one of our great universities furnished two youths who deliberately committed an awful crime avowedly to gratify their desire for a "thrill". A very slight contact with our high school population will impress you with the fact that a goodly percentage of them are more concerned with "having a good time" or "getting a thrill", as they call it, than they are in the development of their powers of attention, control of the emotions and the will, and the better fitting of themselves to meet the issues of life as they present.

A system of education in any community which concerns itself largely with educating the intellect, of making the mind simply a store house of facts, is laying the foundations for a good sized class, who later in life will need a course of re-education from the courts or the physician.

The success of every individual depends to a considerable degree upon his ability to adjust his life to realities and there is not the slightest doubt that very many cases of neuroses and neuro-psychoses have laid the foundation for their mental instability in the failure during their school days to, by practice and precept, acquire attentive control of the emotions and will, requisite for meeting the actual conditions of modern life.

Twenty-five centuries ago, Plato, the pupil of Socrates and the rival of Aristotle, found himself driven to criticize the medical methods of his day when he said, "This is the great error of our age, in the treatment of the body, that physicians separate

the soul from the body". This quotation might well be applied to our day, and while it may not be as true now as then, yet the fact remains that most of us in the treatment of disease, are materialists, and our ranks are becoming crowded with surgeons and would-be-surgeons with scapel in hand cutting away pathology without the slightest knowledge or interest in what might be the underlying factors bringing about said pathology.

Analytical history, percussion, palpation, auscultations, chemical reactions of body fluids, X-rays and all the physical means we can command are essential and necessary in arriving at a correct diagnosis, but in man the biological life is so intimately associated with the psychological and I submit that at times, and indeed most frequently, it is necessary to go deeper than the physical in our investigations and ascertain what thoughts, feelings and emotions the patient is living into his tissues daily. "As a man thinketh, so is he", is not merely a Scriptural platitude, but an ever present, and demonstrable scientific fact.

Speaking of physical examinations, before proceeding very far, one should have at least a relative conception of the psychology of the patient, for I have observed a number of cases in which "blue pencilling the anatomy" has split up a disturbed neuroses into a profound psychoses.

In the case of an alleged diseased mind the physician bears an altogether different relationship than in ordinary practice. Here the diagnosis is not one that concerns the individual alone, but the community, and if a patient has deviated from the normal to such an extent that he is no longer able to regulate his conduct in conformity with established conventions, the interests of the community over-ride the constitutional rights of the individual to liberty and the control of his property. Therefore, the physician is called upon not alone to deal with a pathological entity, but to solve a social problem.

Legislative enactment may and does in most communities prescribe the degree of responsibility of individuals, yet the opinion of a physician informed on the scientific viewpoint has a great influence in determining equity and justice and the best solution of the problem presented.

The Oklahoma laws provide that the County Judge may appoint two legally

qualified practicing physicians to examine and advise the court as to the mental capacity or incapacity of the alleged insane person. There is no requirement that these physicians shall have any special training or knowledge of psychiatry. The law assuming, I presume, that every licensed physician has this knowledge which is not, by any means, true.

In view of the ever increasing frequency in which the courts are calling upon the profession, in this state, in the adjustment of these medico-legal problems, is it not imperative that we give more thought and study to psychology, and psychiatry than we have heretofore? For these problems are not, in the main, responsibilities of the alienist but those of the family physician.

Again, if the finding of the commission appointed by the court to determine the sanity or insanity of an individual, is adverse to the patient, he or she has the legal right to ask that the issue be determined by a jury of laymen, and the physicians composing the commission are then used as experts on insanity and under cross examination by a shrewd member of the bar, there is no limit as to questions he may ask testing qualification, and under such circumstances, is it any wonder they frequently make "monkeys" of members of our profession?

I submit to you gentlemen: that a physician charged with the responsibility of protecting society on the one hand, or depriving an individual of his constitutional rights of liberty and property control on the other, should have more than a passing acquaintance with disturbed mentalities, and should be prepared, if necessary, to "cross bats" with any member of the bar, in defending his opinion by scientific facts and knowledge of the operation of a mind diseased.

We all know the impossibility of drawing a hard and sharp line between sanity and insanity. Many of our foremost alienists have asserted no definition is possible. Nevertheless, in medico-legal work, the physician is usually called upon for a definition, if for no other reason that to test his qualifications, or to expose his hand to the opposing counsel regarding the extent of his information.

The following is the definition I have made use of for many years and which has always served the purpose: "When an indi-

vidual has an hallucination, an illusion or a delusion out of which he cannot be reasoned, by the use of the well known laws of logic and reason, with the exercise of his own mind or the assistance of another, then the individual is insane".

The physician able to make a technical diagnosis, with at least a relative degree of precision will the better be prepared to form an opinion as to causes, duration, outcome and probable behavior of the patient, and the more familiar he is with the various types of insanity the more expert he will be in detecting malingering, which is not uncommon, especially in those charged with crime. It is well to keep in mind that there are no pathognomonic signs or symptoms of insanity and, contrary to popular opinion, insane people may in many respects behave like sane people. Mental instability introduces nothing new. It merely modifies, exaggerates or distorts that which is already in the mental cosmos.

The examination of a psychiatric patient is really a study in reactions, those caused by structural diseases of the brain on the one hand, and those due to a psychoses. Therefore, attention should be first given to ascertain the presence or absence of demonstrable pathology or structural defect, determining the quantity and quality of nerve tissue the given individual possesses, thus we may the better judge the use one patient is making of such capacity as he may have, and here we must keep in mind that healthy persons react differently to given stimuli.

Thus, in the acquisition of a desirable thing, one boldly fights for it, turning if need be, heaven and earth to obtain his object, the other is depressed, thinks it not worth while, and is more or less moody over the matter, while a third feels that he did not have a square deal and explains his failure on some one, or something outside of himself.

In conclusion, gentlemen, let me reiterate, first: The prevalence of mental instability of a profound nature makes it imperative (if we, as a profession, are to efficiently take our proper place in advising the courts alike to the interests of the community and the individual) that we shall be more conversant with psychiatry and psychology than now obtains, and that we, as an organization, should take some steps to acquaint the public with the situation as it exists, secondly, that we shall

be less materialistic in our mental attitude; regarding the patient not simply as a human machine, but rather as an immortal being, whose anatomy and bodily functions are played upon, modified and changed by persistent predominant thoughts and feelings and that the individual who has had a trauma of the psychic life, either by emotion or suppression, and therefore incapable of adjusting himself or herself to the realities of life, is entitled to just as much consideration and just as much care as if they had been hit by an automobile or infected with a pathogenic micro-organism, and that in the treatment of these cases a knowledge of psychotherapy is just as essential as is surgical asepsis or bacteriology.

IT CAN BE DONE

CARL PUCKETT, M.D.
State Health Commissioner
OKLAHOMA CITY

During the chaotic years which followed the World War, when the currencies of half the world were so far below par that settlement of international debts seemed impossible, the world awaited the coming of a genius with a solution so original, so unique that its application would solve world problems like magic. While most of the world was waiting the coming of this wizard, there arrived on the scene a man, famed alike for his thorough understanding of finance, his profanity and his pipe. With his keen analytical mind he took the economic problems facing the world, applied general knowledge and horse sense to their solution and evolved that masterpiece now known as the Dawes Plan.

As it was with the economic problems facing the world in the maelstrom following the war—so it is with one of the most serious of the problems confronting Public Health Officers, the Medical Profession and the general public today. The whole world is sitting back awaiting a Jenner, a Pasteur, a Widal, an Ehrlich, to announce a vaccine or a therapeutic solvent for this problem. I speak of the problem of Venereal Disease Control. Where is the Dawes who will compile our knowledge, co-ordinate our efforts and synchronize our thoughts and sympathies to the end that we may successfully combat the inroads of the venereal disease? This has been a

problem of all nations through all the ages. It has been a problem of such national significance that cities, counties and states have been tempted to let the Federal Government shoulder responsibilities which should properly be their own. No doubt the fact that morality and religion have been a part of the problem has served, at least in some measure, to make this a distinct question apart from health protection with which local governments have to deal. But since moral suasion and religious teaching by our churches have failed as a method of control it would seem that now there would be little objection from any source, should we separate this problem of infectious disease from such methods of control and make it distinctly a public health question; practically all authorities on preventive medicine and public health now agree that such it is or should be. The church is concerned chiefly with the moral side of the worship of Venus and can make greater strides in a campaign against immorality than in a fight against venereal disease. The church should be concerned about all infectious disease; all are destructive of humanity and wasteful of vitality; all are the result of violation of natural laws of health. The church has never failed us in our fight against smallpox, diphtheria, yellow fever, leprosy and the host of other controllable diseases of man, even going so far as to send missionaries afield, whose duty it is to minister to the physical as well as to the spiritual needs of their people, realizing that the control of these diseases intimately affects the prosperity, happiness and development of any community. Similarly we want, and need, the cooperation of the church in our struggle to control the Venereal Diseases, but we feel that the time has come to push the fight further and harder than the church could or should as the sole aggressor. In fact the control of these diseases is recognized by authorities as one of the most important phases of Public Health Administration.

We still use the word "control" in discussing this question which implies that we admit it is not yet possible to prevent it. Perhaps it is best to continue the use of this word, for, though theoretically possible to prevent these diseases it is not yet practically so. But to control we must prevent and to prevent we must find the infected person, isolate and treat until non-infectious. This can be done.

Many of our people believe that sex education will solve the problem. That surely will be a material help but will not be sufficient. This education should consist of personal hygiene, the knowledge of how disease is spread and thus how to avoid it, a knowledge of the body and the functions of its parts; in short an understanding of the science of life. Remove the mystery of disease so far as is possible and the cooperation of all persons can then be obtained toward intelligent measures for eradication and prevention. Though education has not eliminated other infectious diseases, an educated public helps the health official to prevent and control the spread of disease. Therefore, our policy is to stress proper training of the adolescent as the first step in a permanent campaign of control. We are also in favor of as much publicity as possible, not of the individual cases but of the prevalence of these diseases and the harm resulting therefrom.

The general discussion above is not the object of this article but serves rather as an introduction. The real object is to enlist the support of the medical profession in the control, prevention, and eradication of Venereal Diseases. Our profession has ever been active in attacking what to the unthinking may appear to be the very sources of our incomes. Unselfish service to humanity is part of our creed. Though success has attended our efforts to such a degree that yellow fever, to use a single example, has practically disappeared from the earth, there is no evidence to prove that physicians as a class, or as individuals, are any the poorer because of this service. The fewer problems of this nature we have to contend with the more time we shall have to devote to maintaining the health of our patients, rather than curing them of their ills. This, after all, is by far the higher ideal.

Since it is everywhere recognized that venereal disease like all other infectious diseases must be controlled, if at all, by dealing with the infected individual, it is up to physicians, in closest cooperation with health officials, to bring about any general improvement which may lead to what might be termed control. You are aware that the common communicable diseases are now controlled not by quarantine alone but by running down the source of infection, be it polluted water, milk, food, etc., or human carrier. It

should not be so very difficult to obtain from our patients the source of their infection. If this information is obtained the one responsible for the condition of our patient can be forced to take treatment and thus we can control a focus of infection that may, and frequently does, cause an epidemic. Such infected persons would as a rule not hesitate to take treatment if they should realize their condition were known. If they find that all physicians are observing the law and that health officials are enforcing it the difficulties are not insurmountable. You may say that the unscrupulous physician would reap benefits by ignoring the law. That may be true, to some extent, but we do not all violate the narcotic law or commit abortions because a few appear to profit by it.

We are now urging regular reporting of venereal diseases, by number of course. For those doing much of this practice we have record books for the convenience of physicians, that are serially numbered and with which we will supply any physician on request. We need these reports in order to determine the prevalence of these diseases. They must be had in order to plan ahead in our battle for their control. After reasonable success in collecting reports is achieved it will be possible to inaugurate a system of follow up that will enable us to catch the foci of infection as suggested above. We sometimes hear it said, "Why report if nothing is done about it?" This question, I am sure, is asked thoughtlessly, for a few minutes consideration will prove even to those who know least about statistics that before a plan can be conceived, or a conclusion reached, a system of accurate, prompt and dependable reports must be developed. Without knowing absolutely, the incidence and location of cases of venereal disease, no adequate steps can be taken by the State Health authorities.

Another value of regular and systematic reports is that with this cooperation of physician with health officer the former may have the assistance of law in forcing his patients to complete a cure. This advantage cannot be fully utilized without general cooperation of physicians to the point where a regular system can be worked out. That will gradually come. It is not the function of any health department to act as a collection agency or be a means of bringing business to physicians,

but the health official could give anyone his choice between treatment or isolation just as in any other infectious disease and most of them would choose the former. Legal means may be required to persuade many persons to continue treatment that might otherwise cease as soon as the evidence disappears or the discomfort no longer makes professional care imperative.

Perhaps one-half of all cases of both gonorrhoea and syphilis cease all treatment long before the danger to themselves is over; in the latter disease records show that seventy-five percent. fail to complete a cure. Probably twenty-five percent. cease treatment before they are non-infectious. In all these uncured cases the State should step in and force the proper course; this, not as a humanitarian measure, although that would be sufficient cause for action, but to protect its citizens from contamination and from an almost certain future dependant. With the present law, and the cooperation of physicians it is possible to force the ignorant, foolish, negligent or vicious to follow the advice of intelligent and scientific men. But to be qualified to invoke the aid of the law physicians must themselves observe it. The Department of Health is striving toward the plan hinted at above whereby all infected with venereal disease shall be treated until cured; it is our wish and we are attempting to show all persons that they must be so treated for their own protection; and, further, we are attempting to force those unwilling to do so for their own protection, to obtain treatment as a protection for the commonwealth. The degree of success attained in this effort will largely be determined by the measure of cooperation given by the medical profession of Oklahoma.

To make this campaign a success in which the state and medical profession are allies, physicians should charge within the limits of the patient's ability to pay. I would not even suggest that any attempt be made to fix fees by legislation but that physicians as a group regulate themselves and form a cooperative working organization with the state. This would certainly prove to be of great financial benefit to all concerned. If all those financially able to do so would complete a cure physicians would be sufficiently remunerated by these to justify treating the poorest at a nominal sum. If the physicians of Oklahoma would

agree on a schedule of fees, varying according to income, taking into consideration the necessary expenses of all classes and placing their charges within the financial reach of all, the state could well afford to step in and force the patient to pay this "income tax". The state could then compel all "shieks", "jelly-beans" and "flappers" to cut out all luxuries and apply these expenses toward cure. A one hundred dollar per month "shiek", if, perchance, such a person could ever earn so much, could well afford to set aside forty dollars per month up to a year, for cure, especially if "legally advised" to do so. Thus he would be paying the bill that the state would otherwise pay in a few years. Uncured syphilis is responsible for about 15 per cent, possibly more, of the most of our hospitals for the insane and 50 per cent of the cost of our institutions for feeble-minded, so there is no doubt that the state would benefit by forcing syphillitics to be cured.

We speak of our patriotism and love for country. Especially has this been discussed for the past eight years. During the war many physicians were willing to, and many did, sacrifice life itself for our country. But sometimes we forget to live for our country. On the part of physicians this is usually due to carelessness or oversight and it is only necessary to show them the need for civic patriotism, when they will strike at this enemy to our country, this insidious menace to our citizenship, this venereal disease peril that is terrible in its destruction and do their part in its control.

Probably you think I am visionary and impractical in my suggestions above. Perhaps I am. However, it is the duty, specified by statute, of physicians to report their cases of venereal diseases, as well as to report all other infectious diseases and they should notify the authorities when an infected person fails to complete his cure. The question of confidential relationship of the physician has been raised in this connection. Where protection of the public is involved that confidential information is not and should not be binding. In reality the same rule of reason applies here as in diphtheria or smallpox. We are dealing with infectious disease, not morals. We are urging physicians to follow the law and our suggestions; if this is done, some of these theories may not seem so visionary. We are trying to do our part to make this a practical, working system

that will benefit physicians, and the state infinitely more.

I assure you we are not trying to place the responsibility for proper handling of the venereal diseases on physicians, for a great part of this duty belongs to the Department of Health. Yet our department is efficient or otherwise in proportion to how it is supported by the people and especially physicians. We believe we are doing our part at least as well as you are doing yours. Since neither of us has much to boast of it might be possible for a friendly alliance to win a victory that would mean glory for both.

Just as the Dawes Plan, in its proper working out, entailed some sacrifices, some hard work, and a great deal of patience on the part of those most intimately concerned, so will any plan, short of miracle, designed to control the spread of venereal disease, require sacrifice, hard work, and forbearance on the part of patient, physician and Public Health Officials. Protect those worthy of protection, expose the vicious, and the State Department of Health in cooperation with you will do its best toward the accomplishment of what seems to be a Herculean task.

See Article XX, Chapter 79, Revised Statutes of Oklahoma, Annotated, 1921. If the statutes are not easily accessible, write the State Department of Health, and a copy of the law pertaining to Venereal Diseases will be sent you.

REPORT ON ANTISTREPTOCOCCUS SERUM

Of twenty-five leading surgeons, gynecologists and obstetricians who were questioned by Emil Novak, Baltimore (Journal A. M. A., Jan. 16, 1926) as to their opinion of antistreptococcus serum, sixteen considered it of no value, one said he knew nothing about it, and eight expressed the opinion that, while usually unsatisfactory, it might for certain indications be of real value. The chief of these was for a supposed protective or prophylactic action, while occasional good results are mentioned where the proper strain of streptococcus happens to be selected. Not a single one of the twenty-five questioned evinced any degree of enthusiasm for the serum.

CHARACTERISTIC CHANGES IN BLOOD CHEMISTRY IN WHOOPING COUGH

A total of 200 analyses of the blood in whooping cough have been made by Joseph C. Regan and Alexander V. Tolstouhiov, Brooklyn (Journal A. M. A., Jan. 16, 1926). Distinct and apparently significant changes have been encountered, the most characteristic of which were (1) a lowering of the hydrogen in concentration of the blood and (2) a diminution of the inorganic phosphorus content.

EXTREME REQUIREMENTS IN MEDICAL EDUCATION

The article by Dr. Henry A. Christian in a recent issue of Science calls attention to the advantages and likewise the dangers to be considered in the development of highly endowed medical schools. The author points out clearly that high entrance requirements or extreme limitation of enrollments, while they may result in the securing of a few highly skilled and efficient graduates, may at the same time eliminate many brilliant minds. There are doubtless many students who, under the special advantages furnished, would bring great credit to themselves and to the institution, even though their preliminary education may be only average and who, for that reason, would hardly be admitted under higher entrance requirements or where classes are limited to smaller numbers. Such students who, under exceptional hardships, have been enabled to secure the average preliminary training, but who through that very process have developed tenacity, perseverance, efficient methods, usually good judgment and other high personal characteristics, should be given every encouragement. The author suggests the possibility, therefore, that a large student body would be more advisable but with special provision whereby those especially gifted could be discovered. "There is much to indicate," he said, "that the small school has not quite measured up to its expectations". The holding of admission requirements more to the average, rather than to the extreme, and the admission of reasonably large classes will not only open the way for the brilliant minds who otherwise would be excluded, but also enable the institutions to utilize their larger resources in the way of endowment, equipment and teaching facilities for larger numbers of highly qualified practitioners. Under careful methods, these larger classes cannot fail also to include larger numbers of exceptionally efficient graduates.—*Jour. A. M. A.*, Jan. 9, 1926.

THE REPAIRED HEART

In the case reported by James L. Fisher, of Youngstown, Ohio, *Journal A. M. A.*, Jan. 16, 1926, the heart, in which a large laceration had been sutured, was called on in three weeks to endure the added strain of a severe bronchopneumonia. The heart behaved satisfactorily in every respect, with the exception of the rate. Although rapid, the pulse was at all times regular in time and the beats equal in volume. At the time of maximum lung involvement, the circulation was only moderately embarrassed. Digitalis in the dosage given exhibited but little effect in slowing the heart. It is assumed that the vagus stimulation was not sufficient to overbalance the increased irritability of the myocardium. The presence of nonabsorbable suture material would perhaps tend to prolong the irritability.

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EDITORIAL

CANCER MORTALITY.

There are many illuminating facts and much food for thought in a statistical report just issued by the Industrial Department of the Metropolitan Life Insurance Company. The report covering twelve years, 1911-1922, gives in detail the types of cancer causing the deaths of 90,175 insured wage earners and their families. The Company believes that the information available is possibly more exact and more detailed than for any other comparable

group in the population, as the records of its many millions of policy holders makes possible continuous investigations into cancer mortality. All occupations are represented, including millions of housewives, and the records of sickness and death are shown upon the forms of the company more completely than those available to registration authorities.

The report shows that cancer ranked fifth as a cause of death in numerical importance, being outranked only by heart disease, tuberculosis, Bright's disease and pneumonia. The relative rank of cancer as a cause of death was higher in the last two years, only heart disease and tuberculosis had higher rates. It is concluded that if a boy or girl once reaches the age of ten years there is more likelihood of dying ultimately from cancer than from tuberculosis or pneumonia. Heart disease, chronic nephritis and cerebral hemorrhage are the only diseases which are more likely than cancer to cause death ultimately of males reaching the age of ten, and only heart disease and cerebral hemorrhage are more likely to cause the death of a female who has already lived ten years. The mortality from cancer has increased in the industrial population of the United States and Canada during the twelve years, due allowance having been made for more accurate reporting of the cause of death. However, the actual increase in cancer deathrate has been much smaller than it might be inferred from analysis of published crude deathrates. It has been greater among males than females. More than 2 per cent. of all such deaths were of persons under 25 years of age. Cancer of the stomach, liver, the female genitals, peritoneum, intestines and rectum, together constitute over two-thirds of the mortality. In cancers of the peritoneum, intestines and rectum, the rate was much higher in women. There was little difference between men and women as to cancer of the stomach and liver, while buccal and skin cancers show a much higher rate in men. Regardless of age and sex classes, colored showed an increase of deaths from cancer of the stomach and liver. Growths of the liver and gall-bladder are more frequent among females. There is an upward trend of the deaths from cancer of the intestinal tract, particularly among whites of both sexes, among colored females there was a significant rising of this group at 55 to 64 years. More than 60 per cent. of the deaths in this

group were from growths of the intestinal tract, other than the rectum or anus, but rectal and anal cancer exacted a heavy toll among negro women, constituting the only group of malignant growths of the peritoneum, intestines and rectum in which the mortality among colored persons exceeds that of the whites. Breast cancers accounted for 13.5 per cent. of all white females, running higher than that among colored females. Only 1 per cent. of deaths from cancer among females was due to buccal cavity growths, but the rate from that type accounted for 8.9 per cent. among whites and 6.9 among colored males.

The report should be secured and studied by every one interested in the great problems presented by cancer.

EXPLOITING THE HEALTH INTEREST

This is the title to a twenty page illustrated reprint just issued by the Bureau of Investigation of the American Medical Association, dealing with the activities of Bernarr McFadden and his interlocking associates and various publicity ventures. McFadden will probably be recalled by many of our readers as the moving spirit of *Physical Culture*, a monthly publication which, from its inception has undertaken to misrepresent the medical profession and its motives and ideals. Lately McFadden has attempted to send out "lecturers" and exhibitors over the country giving a series of lectures on physical culture before civic clubs. School authorities have even been induced to permit the use of public schools for this purpose, of course never realizing the actual motive power behind the movement. In order that the physicians and health authorities generally of the country be forewarned, and thus forearmed, a voluminous illustrated reprint setting forth many details of the shady character of the propaganda put out by the McFadden interests was prepared and it is urged that should attempts be made in any locality to "lecture" to the public by these interests, copies of the reprints be secured by all concerned. The work is instructive, illuminating, and throws much light upon the pernicious activities of one of the destructive forces at work in this country. Advertisements purporting to make a man grow, "well . . . to guarantee to increase your height three or four inches"; are shown, "Why be sick when Oxypathy",

"Good health for one cent", "Excess weight reduced", "Foods", "Brainy Diet", "Hypnotism", "Get fire and pep", "Claims vaccination a filthy superstition", this from an alleged physician, "What the Osteopaths showed them at Kirksville", are reproduced, along with a large number of other nauseating messes with which the pages of *Physical Culture* teem.

The State Health Commissioner, Richmond had only to present pages carrying the McFadden matter, taken from issues of *Hygeia*, to the Rotary, Kiwanis, Lions and other clubs, and the "lectures" were promptly cancelled. Very likely Oklahoma may see some such attempt on the part of these active gentlemen.

Editorial Notes—Personal and General

ATOKA COUNTY MEDICAL SOCIETY is now having regular monthly meetings with scientific programs.

DR. S. G. HAMM, Haskell, is taking a post-graduate course at New Orleans, and expects to return about April first.

MURRAY COUNTY MEDICAL SOCIETY met with the Davis, Okla., doctors February 2nd. for a luncheon followed by a scientific program.

DR. OTIS G. BACON, Frederick, narrowly escaped death when his car was run into January 5th, and overturned into a ditch, completely demolishing the car.

DR. I. A. BRIGGS, Stillwater, thinks a public meeting to which the women of his city would be invited, should be held and that Dr. M. S. Gregory of Oklahoma City should repeat his lecture on the subject of Hysteria.

OKMULGEE COUNTY MEDICAL SOCIETY elected the following officers for 1926: Dr. W. M. Cott, Okmulgee, president; Dr. A. J. Milroy, Okmulgee, vice-president, and Dr. G. A. Kilpatrick, Henryetta, secretary-treasurer.

DR. LeROY LONG, Oklahoma City, dean of the School of Medicine, University of Oklahoma, was a guest of the Garfield Medical Society at its meeting at Enid January 21, addressing the gathering on Abscesses and Their Treatment.

MRS. T. H. McCARLEY, wife of Dr. T. H. McCarley, McAlester, died suddenly Wednesday, January 13th. She leaves to mourn her untimely death, her husband, two small children and an infant born a few hours prior to death. Mrs. McCarley was considered a God-mother to the Y. W. C. A. of her City and was a leader in Church and civic activities.

DR. EVA WELLS, Oklahoma City, has been appointed assistant school physician of the city schools of Oklahoma City.

HASKELL COUNTY MEDICAL SOCIETY elected Dr. T. B. Turner, Stigler, president, and Dr. John Davis, Stigler, secretary-treasurer.

MUNICIPAL HOSPITAL, Cushing, has issued a calendar for 1926 on which is to be found the roster of the entire membership of the Cushing Medical Society.

DR. R. D. LOWTHER, Norman, received three broken rigs January 8th, when his car was crowded off the road by a motor truck near Oklahoma City.

BECKHAM COUNTY MEDICAL SOCIETY elected the following officers for 1926: Dr. J. E. Standifer, Elk City, president, and Dr. G. H. Stagner of Erick, secretary-treasurer. Regular meetings will be held on the first Tuesday night each month.

THE AMERICAN COLLEGE OF SURGEONS, Oklahoma Division, at its meeting at Houston, Texas, January 28th, elected Dr. W. A. Cook, Tulsa, Chairman; Dr. G. A. Wall, Tulsa, Secretary, and Dr. LeRoy Long, Oklahoma City, councilor. Next year's meeting will be held at Tulsa.

DR. LUCILE SPIRE BLACHLY, Director of the Bureau of Maternity and Infancy of the State Department of Public Health, Oklahoma City, spent several days at Washington attending the annual meeting of the Directors of the Bureaus of Maternity and Infancy of the various states, January, 11, 12 and 13.

OLIVER H. GERRY, president of the O. H. Garry Optical Company of Kansas City, died recently, after an illness of several years. The company announces the continuation of the policy inaugurated by Mr. Gerry and followed for many years, with no change in the management or the organization.

GARFIELD COUNTY MEDICAL SOCIETY on January 4th, elected Dr. A. E. Wilkins, Covington, president; Dr. B. S. Harris, Drummond, vice-president, and Dr. Paul B. Champlin, Enid, secretary-treasurer. Dr. Lee W. Cotton, Enid was elected delegate, and Drs. Frank A. Hudson, S. N. Mayberry and C. W. Tedrowe, all of Enid, censors. A banquet was held at the Sanderson Hotel, Enid, following the election.

DR. L. A. MITCHELL, A. & M. College, Stillwater, in speaking to the Payne County Medical Society recently, gave some statistics relative to his work with chlorine gas in treating colds among students at the Oklahoma Aggie School. He stated that of all students so treated (lasting for one hour on three consecutive days), some 66 per cent. reported cures, 17 per cent. improvement, and 17 per cent. reported that they felt worse. Dr. Mitchell intends to continue his endeavor with chlorine, in the hope that some aid will be found in treating respiratory conditions where large bodies of students are thrown together for extended periods.

DR. R. L. FISHER, Frederick, and family, who have been sending a few weeks vacation in California, have returned home.

LINCOLN COUNTY MEDICAL SOCIETY elected Dr. W. H. Davis, president, and Dr. J. M. Hancock, secretary, both of Chandler.

TEXAS COUNTY MEDICAL SOCIETY elected Dr. William H. Langston, president, and Dr. R. B. Hayes, secretary-treasurer, both of Guymon.

DR. G. S. BAXTER, Shawnee, sailed from New York January 21st. on the S. S. Republic for an extended tour of the Orient, making stops in Europe and visits to Africa and Asia. Dr. Baxter expects to return home about the 1st of April.

COMANCHE COUNTY MEDICAL SOCIETY met with the dentists of Lawton, January 25th, in the Doctors and Dentists Building, with a scientific program. Future meetings of the society will be held on Tuesday nights hereafter, twice a month.

MAYES COUNTY MEDICAL SOCIETY held its annual meeting January 6th. at Pryor and elected the following officers: Dr. E. L. Pierce, Pryor, president; Dr. J. E. Hollingsworth, Strang, vice-president, and Dr. Sylba Adams, Pryor, secretary. The next meeting of the society will be held February 3rd.

CUSHING MEDICAL SOCIETY has recently made a contract with a local man to collect all accounts which are giving the members any trouble in closing. Since the society comprises the entire profession of the City it is hoped that the pressure of a single agent acting for the entire profession will prove very beneficial to the membership financially.

MUSKOGEE COUNTY MEDICAL SOCIETY met at U. S. Veterans' Hospital, Jan. 11, and after being guests of the Staff at a dinner, were entertained with an interesting clinic on tuberculosis, presented by Dr. Melgie Ward, expert on tuberculosis. Several cases were presented, with their histories and radiographic findings.

Meeting at the Hotel Severs, January 25th. Dr. A. N. Earnest presented a case wherein death resulted from an obscure and undetermined chest condition. Dr. R. L. Mitchell presented a case of Carcinoma (clinical diagnosis) involving the ear canal, apparently arrested by X-ray and electrical coagulation. This case was interesting for the reason that it was not amenable to surgical treatment. Dr. A. L. Stocks presented a case of Epidermophyton, affecting the toes, readily controlled by X-ray treatment. Dr. W. P. Fite presented a report of a case of causalgia affecting the palm of the hand, relieved by alcohol injections of the median nerve and blocking of the ulnar and radials with procain. Dr. C. E. DeGroot read a paper on the life, history and many achievements of Rudolph Virchow. Dr. R. J. Wilkiemyer delivered a resume of the year's important advances in surgery, obstetrics, pediatrics, medicine and laboratory work.

DR. J. E. CHILDERS, formerly of Colony, has moved to Tipton.

DR. EDWARD F. DAVIS, Oklahoma City, announces the removal of his offices to 1017 Medical Arts Building.

DR. and MRS. WANN LANGSTON, Oklahoma City, announce the arrival of Miss Charlotte Louise on December 30th. 1925.

DR. FRED F. FULTON, Oklahoma City, has returned from a trip to Italy, France and Egypt, and attendance at several European clinics.

PONTOTOC COUNTY MEDICAL SOCIETY elected Dr. J. L. Jeffress, president; Dr. John R. Craig, vice-president, and Dr. Alfred R. Sugg, secretary; all of Ada.

COAL COUNTY MEDICAL SOCIETY has the following officers for 1926: Dr. J. J. Hipes, Coalgate, president; Dr. Frank Bates, Coalgate, secretary-treasurer.

HUGHES COUNTY MEDICAL SOCIETY elected the following members to office for 1926: Dr. W. B. Bentley, Calvin, president; Dr. H. A. Howell, Holdenville, vice-president; Dr. D. Y. McCary, Holdenville, secretary-treasurer, and Drs. J. F. Musser, W. L. Taylor and J. D. Scott, censors.

OTTAWA COUNTY MEDICAL SOCIETY on December 16th. elected the following officers for 1926: Dr. Ira Smith, Commerce, president; Dr. Charles McCallum, Quapaw, Dr. H. K. Miller, Fairland, and Dr. E. Albert Aisenstadt, Picher, vice-presidents, and reelected Dr. G. Pinnell, Miami, secretary-treasurer.

KIOWA COUNTY MEDICAL SOCIETY held its annual election of officers on January 15th. at the Nash Hotel, Hobart, selecting Dr. J. M. Ritter, Roosevelt, president; Dr. B. H. Watkins, Gotebo, vice-president; Dr. J. H. Moore, Hobart, was elected secretary-treasurer for the fourth successive time. Dr. William McIlwain, Lone Wolf, was elected delegate, with Dr. J. A. Land, Lone Wolf, as alternate; Drs. J. M. Bonham, chairman, A. T. Dobson, and J. A. Land, censors. The meeting was addressed by Dr. John B. Wood of Kansas City.

PAYNE COUNTY MEDICAL SOCIETY met at Stillwater on January 27th. as guests of the Stillwater members. Representatives were present from Ripley, Perkins, Yale, and Cushing, Stillwater was present 100 per cent. Their program was excellent, and reads as follows: "Etiological Factors of Hysteria," Dr. M. S. Gregory, Oklahoma City; "Obesity," Dr. L. A. Cleverdon, Stillwater; "Hypertension," Dr. C. E. Sexton, Stillwater; "North Carolina Plan of Post-Graduate Study," Mr. L. B. Fritts, Norman; "Chlorine Gas in Colds," Dr. L. A. Mitchell, Stillwater; "Intravenous Therapy in Mercurial Poisoning," Dr. J. H. Maxwell, Oklahoma City. Only four men in the society were absent from the meeting; one from Cushing, Yale, Perkins, and Glencoe. Organized medicine in Payne county is now well on it's feet, and looking for yet larger things.

DR. H. H. WILSON, Frederick, has moved to Norman.

CHEROKEE COUNTY MEDICAL SOCIETY has elected Dr. J. S. Allison, president, and Dr. A. A. Baird, secretary, both of Tahlequah.

PITTSBURG COUNTY MEDICAL SOCIETY elected Dr. O. W. Rice, president, and Dr. F. L. Watson, secretary-treasurer; both of McAlester.

OKFUSKEE COUNTY MEDICAL SOCIETY has elected Dr. C. M. Bloss, Okemah, president, and reelected Dr. R. Keys, Okemah, secretary-treasurer.

WAGONER COUNTY MEDICAL SOCIETY elected Dr. S. R. Bates, president; Dr. E. P. Nesbitt, vice-president, and reelected Dr. C. E. Hayward, secretary-treasurer, all of Wagoner.

JACKSON COUNTY MEDICAL SOCIETY elected the following new officers for the new year: Dr. W. H. Price, Eldorado, president; Dr. L. H. Hardin, Elmer, vice-president, and Dr. W. P. Rudell, Altus, secretary-treasurer.

GARVIN COUNTY MEDICAL SOCIETY has reelected its 1925 officers for the new year; they are: Dr. W. P. Greening, president; Dr. H. P. Markham, vice-president, and Dr. James W. Stevens, secretary-treasurer, all of Pauls Valley.

BLAINE COUNTY MEDICAL SOCIETY elected the following officers at the regular meeting on December 17th, at Okeene: Dr. George M. Holcombe, Okeene, president; Dr. H. M. Krebs, Eagle City, vice-president, and Dr. W. F. Griffin, secretary-treasurer.

GRADY COUNTY MEDICAL SOCIETY elected the following officers for 1926: Dr. U. C. Boon, Chickasha, president; Dr. W. R. Barry, Alex, 1st vice-president; Dr. W. L. Bonnell, Chickasha, 2nd vice-president; Dr. Martha J. Bledsoe, Chickasha, secretary-treasurer; Drs. W. H. Cook and D. S. Downey, delegates, and Drs. A. B. Leeds and A. W. Nunnery, censors.

CARTER COUNTY MEDICAL SOCIETY met in annual session and elected the following officers for 1926: Dr. S. DePorte, president; Dr. R. C. Sullivan, vice-president, and Dr. A. G. Cowles, secretary-treasurer; all are of Ardmore. Delegates elected were Drs. T. W. Dowdy, Wilson, and F. A. Harrison, Ardmore, with alternates Drs. J. R. Pollock and J. C. Best, Ardmore; Dr. J. W. Shelton, Ardmore, was elected censor. Several papers were presented: "Acute Osteomyelitis," by Dr. F. W. Broadway, discussed by Dr. W. M. Johnson; "Asthma (Laboratory Diagnosis)" by Mr. Jack Bullock, laboratory technician; "Tuberculosis of the Kidney" by Dr. S. DePorte, discussed by Dr. A. G. Cowles. The next meeting will be held February 9th. at the Ardmore Hotel, with a banquet for the members and their wives, to be addressed by several medical men from adjoining counties.

DR. L. E. EMANUEL, Chickasha, is attending the clinics at New York and Boston.

DR. W. P. FITE, Muskogee, attended the inauguration of President Bizzell, University of Oklahoma, Norman, February 5th., as the representative of the University of Virginia.

DR. B. H. BURNETT, Duncan, was tendered a birthday dinner on January 18, being the occasion of his birthday and that of General Robert E. Lee, at which several of his colleagues attended.

McLAIN COUNTY MEDICAL SOCIETY selected the following officers for 1926: Dr. I. N. Kolb, Blanchard, president; Dr. J. H. West, Purcell, vice-president; Dr. O. O. Dawson, Wayne, secretary-treasurer, and Dr. W. C. McCurdy, Purcell, delegate.

CANADIAN COUNTY MEDICAL SOCIETY officers for 1926: Dr. D. P. Richardson, Union City, president; Dr. L. G. Wolf, Okarche, vice-president; Dr. J. T. Riley, El Reno, secretary; Drs. H. C. Brown, T. M. Aderhold, and J. W. Muzzy, all of El Reno, censors.

W. M. McNABB, who was recently arrested in Enid on charges of practicing medicine without a license, was fined \$150 and costs when arraigned January 8th., and was released from the county jail. McNabb had practiced medicine at Enid and had opened an office on Pennsylvania avenue.

AMERICAN BOARD OF OTOLARYNGOLOGY—An examination will be held by the American Board of Otolaryngology in Dallas, Texas, on Monday, April 19, 1926, and in San Francisco, California, on Tuesday, April 27, 1926. Application should be made to the secretary, Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Mo.

CRAIG COUNTY MEDICAL SOCIETY officers for 1926 are Dr. Louis Bagby, Vinita, president; Dr. W. R. Marks, Vinita, 1st. vice-president; Dr. J. L. Wharton, Ketchum, 2nd. vice-president; Dr. F. T. Gastineau, Vinita, secretary-treasurer; Dr. W. M. Campbell, Vinita, censor; Dr. F. M. Adams, Vinita, delegate, and Dr. C. S. Neer, Vinita, alternate.

DR. J. ELMER HUGHES, Shawnee, has just returned with a number of other "big game hunters" from the interior of Mexico. They crossed the border at Eagle Pass and went about 100 miles into the interior to the State of Coahuila. They all report "success" but state that they were not permitted to bring the game back across the border.

CUSTER COUNTY MEDICAL SOCIETY met at the Clinton Hospital December 19th., and the following were elected officers for 1926: Dr. C. H. McBurney, Clinton, president; Dr. J. J. Williams, Weatherford, vice-president; Dr. E. E. Darnell, Clinton, secretary; Dr. T. A. Boyd, Weatherford, censor; Dr. McLain Rogers, Clinton, delegate, and Dr. E. E. Darnell, Clinton, alternate.

MURRAY COUNTY MEDICAL SOCIETY elected the following officers for 1926: Dr. John T. Wharton, Sulphur, president; Dr. A. P. Brown, Davis, vice-president; Dr. Howson C. Bailey, Sulphur, was reelected secretary-treasurer; Dr. Paul V. Annadown, delegate, and Dr. Gay H. Mytinger, both of Sulphur, alternate.

McINTOSH COUNTY MEDICAL SOCIETY elected the following officers for 1926: Dr. F. L. Smith, Fame, president; Dr. D. E. Little, Eufaula, vice-president; Dr. W. A. Tolleson, Eufaula, secretary-treasurer; Dr. Dyton Bennett, Texanna, censor; Dr. W. A. Tolleson, delegate, and Dr. G. W. West, Eufaula, alternate.

MEDICAL ARTS BUILDING, Oklahoma City, has shown a profit during the past nine months of its operation of \$5,000 per month, it was reported at the meeting for the election of officers of the holding association. All officers were reelected, they are: Dr. J. S. Pine, president; Dr. E. S. Lain, vice-president; Dr. R. S. Parsons, secretary, and Dr. R. M. Howard, treasurer.

POTTAWATOMIE COUNTY MEDICAL SOCIETY held its annual meeting, consisting of an all day clinic at the Shawnee general hospital, January 6th. 1926. The morning hours were filled with surgical clinics, luncheon was served at the City Hospital to about thirty physicians of Pottawatomie, Seminole, Oklahoma and Lincoln counties. During the afternoon, from 1:30 to 5:00, clinics were presented. At 7:00 o'clock in the evening the annual banquet was served in the Masonic dining room, by the Order of the Eastern Star, which was a very elaborate affair. Dr. Everett S. Lain, Oklahoma City, gave the address of the evening on the various skin affections and the several forms of cancer. It was a splendidly prepared address, illustrated by lantern slides. The following officers were elected for the year 1926: Dr. J. H. Scott, Shawnee, president; Dr. R. C. Kaylor, McLoud, vice-president; Drs. H. G. Campbell, Cromwell, A. C. McFarling, Shawnee, and R. M. Anderson, censors for three years. Dr. W. M. Gallaher was reelected secretary-treasurer. The retiring president, Dr. T. C. Sanders, gave his address in a few well chosen words. Dr. J. A. Walker installed all the officers-elect, after which there were twelve or fifteen three-minute inspirational talks from members and visitors.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M. D.
717 North Robinson St., Oklahoma City

1. Congenital Torticollis (wry neck).

Clinical case report: P. V., age 6 years, came to the clinic for correction of "twisted neck". She was admitted to the Oklahoma General Hospital on January 16, 1923. The operation consisted of open division of the Sterno-Mastoid muscle at its attachment to the clavicle. The skin was made tense by drawing it upward. An incision was made beginning about half an inch above the clavicle, midway between the clavicular and sternal insertions of the muscle, and passed downward and forward, following the natural folds

of the skin to the clavicle. A grooved director was inserted under the Sternal tendon which was divided. The clavicular bonds were then completely divided. Fine catgut was used to close the wound.

The deformity was then over-corrected so that the chin and head turned in exactly the opposite position as previous to operation, and the head included in a plaster case extending down over the neck, shoulders and chest. This dressing was retained for 8 weeks, after which a light brace was used and stretching exercise given.

Discussion: Torticollis may be congenital or acquired. The congenital type may be due to cervical malformations or intra-uterine position in which the head is fixed in a twisted position.



Another alleged cause which is very important from the practical standpoint is that the sternocleidomastoid muscle is ruptured at delivery and the Hematoma, as a result, produces a myositis which contracts the muscle.

Arguments against this cause are that rupture of muscle elsewhere is practically never followed by myositis and contraction, and that cases of hematoma of the sternocleidomastoid seen soon after birth have been investigated and torticollis does not necessarily follow.

It is also found that the congenitally shortened muscle is sometimes ruptured and the hematoma is falsely blamed for the torticollis which is discovered later.

The most important of the conditions simulating wry neck to differentiate in practice is tuberculosis of the cervical spine. The presence of pain, muscle spasm in all neck muscles and the X-ray are the most important symptoms to observe in tuberculosis.

Early treatment is very essential. Asymmetry occurs very early. The eyes are affected and the child may be backward in school.

No. 2. The Human Foot, Its Care and Treatment. Anatomy and Physiology of the Foot.

From the architectural standpoint the foot is a highly organized composite structure consisting of numerous bone units arranged and related to each other in suspension bridge fashion, the arch work and buttresses of which are bound together and held in position by strong bands of ligaments. These highly organized anatomical structures serve two purposes: one as platforms upon which the perpendicular human frame must be balanced, the other as propellers of motion. Such duties demand stability, flexibility and strength. The bases are joined to their uprights by "elastic motorized guywires" which maintain balance and promote locomotion. The whole mechanism is a portion of the complex human organism; composed of tissues pulsating with life and subject to all the frailties and idiosyncrasies of constitutional nature.

Study of the foot cannot be individualized. Thorough knowledge of the subject involves consideration of all branches in the study of medicine and surgery. Such impressive terms as flat foot, broken or fallen arches readily create alarm to the average individual and the reasonableness of supporting the arch by mechanical devices, has created a market in which commercial interests have made arch supports about as common as shoes. Such indiscriminate practice should be discouraged by physicians. A little more attention to this important subject by the general practitioner would greatly assist in properly educating the public and incidentally enhance its usefulness to his practice.

Six Cases of Foreign Bodies of Traumatic Origin in the Elbow. Pigeon, Bernard and Jonathan. *Bulletins et Memoires de la Societe Nationale de Chirurgie*, February 14, 1925, page 140.

Case 1. A soldier on trying to start an aeroplane felt a violent pain on the outer side of his elbow. Roentgenogram showed a shadow behind and below the external condyle, and at operation a piece of cartilage eight by eighteen millimeters in size was removed. It presumably came from a fracture of the external condyle. A good result was obtained.

Case 2. Two cartilaginous bodies were removed from the olecranon fossa of a Zouave soldier three months following an injury which had caused limited motion in the joint. They seemed to have come from a chip fracture of the condyles. Function of the elbow was much improved, although extension remained slightly limited.

Case 5. Some foreign bodies the size of large coffee grains were demonstrated in the outer part of an elbow following a grenade wound, but function in the joint was practically normal.

Case 6. A flat piece of cartilage about the size of a dime was removed from between the external condyle and head of the humerus a few days after a fall on the flexed elbow, confirming the diagnosis of chip fracture of the condyle. Good function obtained.

In four of these cases the loose bodies occurred after injury by muscular violence only. The question is raised as to whether the articular surface

may not have been abnormal from arthritis or from osteochondritis dessicans in such cases.

Loose bodies in the elbow are said to be rather rare, Clavelin finding only twenty in the literature.

OPERATIVE PROCEDURES. ARTHROPLASTY OF THE KNEE BY TRANSVERSE PATELLAR ROUTE FOR FIBROUS ANKYLOSIS ALGLAVE. *Bulletins et Memoires de la Societe Nationale de Chirurgie*, March 28, 1925. Page 379.

This paper is a demonstration of an atomic specimen to show the technique of an operation done first by this method a few month ago.

First step. A J-shaped incision is made with the long arm along the external aspect of the knee and the curve down around the patella. The patella is cut through at the junction of the lower and middle third.

Second step. The knee is placed in hyperflexion breaking up all adhesions and the anterior crucial ligament.

Third step. The upper fragment of the patella is now liberated from the condyles and all articular surfaces smoothed off. The femur should be exposed well up under the quadriceps to insure good motion.

Fourth step. A flap of fascia lata is cut from the outer side of the thigh, preserving a broad pedicle distally next to the condyle, and turned over to completely cover the condyles. The flap should have a good layer of fat taken with it.

Fifth step. The two fragments of the patella are then brought together and sutured with linen and wire encircling suture, and the knee placed in a sling for about six days. Motion is then begun.

ARTHROPLASTY OF THE KNEE. CUNEO. *Bulletins et Memoires de la Societe Nationale de Chirurgie*, March 7, 1925, p. p. 240.

In judging results of arthroplasty the nature of the lesion for which the operation was done should be given due consideration. The type of ankylosis, fibrous or bony, the angle of the joint, the periarticular lesion, the contractures of ligaments, are all matters of great importance.

In bad cases it may be necessary to cut the lateral ligaments and the crucial ligaments. This, of course, might cause lateral instability, but to guard against such condition a projection should be preserved on the tibia to fit into a groove between the femoral condyles.

The author uses Putti's technique, including a free piece of fascia lata to cover the condyles. The prominent curve of the condyles is reduced somewhat in front and the patella is shaved down a little thinner in order to insure better function.

After-treatment is most important. The psychology of the patient, his willingness to co-operate and ability to stand the pain of motion, all are factors of success.

EYE, EAR, NOSE and THROAT

Edited by Jas. C. Braswell, M. D.
726 Mayo Bldg., Tulsa

Toti's Operation for Dacryocystitis: Raia, V. L.,
Am. J. Oph., 1925, 3 s. viii, 547.

Since Toti described his operation of dacryocystorrhinostomy, Raia has performed twenty-eight of these operations. Twelve were reported in 1915, and sixteen are reported in this article. The patients who were considered cured immediately after the operation, have remained cured. In the cases with improvement, all discharge of pus and mucus has ceased but the tears continue to flow in the wind and cold weather.

All of the operations were under local anaesthesia. The author believes that the original incision is best despite the fact that others have objected to the deformity which it at first produces. He always packs the nostril on the side operated upon in order to prevent infection of the wound in the sac and the bony opening in the nose. According to Toti, the nasal mucous membrane should not be perforated but a disk of it should be removed. Any obstruction in the nose must be removed or the procedure will be a failure. The canaliculi and internal palpebral ligament must be left intact.

The Properties of Lens Protein: Gifford, S. R.,
J. Am. M. Ass., 1925, lxxxv, 351.

It has long been noted by ophthalmic surgeons that certain eyes react very severely to liberated lens substance following rupture of the capsule and cataract extraction. Several years ago Verhoeff and Lemoins showed definitely that persons with such a reaction are unduly sensitive to lens protein but that after proper skin tests they can be desensitized and then operated upon without danger.

Gifford reports a series of cases studied along these lines and a series of experiments on rabbits and guinea pigs which confirm the work of Verhoeff and Lemoine. When the work was done on patients the subjects for operation were poorly chosen and the operative procedures not consistent with good surgical practice, but interesting results were recorded. Of the patients giving a positive skin test, only half had a reaction from lens substance, while of those with a negative skin test 10 per cent reacted to lens substance. Normal lens substance is toxic, and cataractous lens substance is more toxic.

Gifford suggests that the term "endophthalmitis phacogenetica" (Straub) be substituted for "endophthalmitis phaco-anaphylacta" (Verhoeff and Lemoine) because many of the reactions are not anaphylactic, being due to the toxicity of the lens matter itself.

A Discussion of the Clinical Problems of Chronic Suppurative Otitis Media: Shambaugh, G. E.,
Laryngoscope, 1925, xxxv, 193.

The author is of the opinion that one of the chief advances in otology is the more accurate recognition of the indications for the radical mas-

toid operation. Chronic otitis media is of two types—one in which there are elements of danger and the other with practically no danger. The former invades the bone while the latter is restricted to the lining membranes of the middle ear cavities. Radical operation is indicated only in the type with bone invasion.

The object of the radical mastoid operation is the eradication of the focus of infection. It is of advantage to have the eustachian tube closed off, but this is by no means necessary. A little discharge from the tube is of no significance.

Electrocoagulation and Radiation Therapy in Malignant Disease of the Ear, Nose and Throat; Pfahler, G. E., J. A. M. A., 1925, lxxxv, 344

In the treatment of malignant disease of the ear, nose, and throat the use of electrocoagulation is limited because it may destroy the blood vessels or other essential tissue, it requires anaesthesia and the guidance of the eye, and it is followed by sloughing. Radiation is of value before, after, or without operation, and should always be employed with electrocoagulation. Radium is preferable to the X-ray when it can be brought into contact with the malignant growth or inserted in it, but the roentgen ray is preferable to radium when the neoplasm goes deeper than 2 cm. or lies under healthy tissue. In the use of the X-ray, Pfahler employs a daily "saturation" method. Great care is necessary in the dosage. Malignant disease of the ear which is confined to the skin responds to electrodesiccation and radium treatment. When cartilage or deeper tissue is invaded, only radiation is effective.

Epitheliomata of the nasal mucous membrane are best treated with radium. Sarcomata should be treated with radium and crossfiring. In malignancy of the antrum, radium is used in the nose, mouth, and nasopharynx with high voltage crossfiring, and surgery and electrocoagulation are employed as adjuncts.

Fibromata of the nasopharynx and sarcomata of the throat are best treated by radiation. In the early stages of carcinoma of the tonsils, radiation may give brilliant results, and in the latter stages may give marked palliation. In carcinoma of the larynx the effect of daily radiation has been encouraging. Pfahler has had no experience with electrocoagulation in these cases, but cites Novak's 200 cases in which this treatment was without untoward sequelae.

Acute Pulmonary Infection Following Operation on the Maxillary Antrum: McKenzie, D. Proc. Roy. Soc. Med., Lond., 1925, xviii, Sect. Larynol., 50.

The author performed a double nasal antrostomy upon a man 33 years of age. Pleurisy on the right side set in six days later and was followed by general bronchopneumonia and several attacks of haemoptysis. The temperature rose and remained elevated with daily remission for about eight weeks. Following the drainage of an empyema, recovery resulted. The sputum was free from tubercle bacillus.

Several cases of acute pulmonary infection of various kinds have come under the author's observation. In every case the maxillary antrum

was the site of operation. The route by which the infection reaches the lungs is not obvious. The septic material may be inspired or may travel through the venous channels. The usual septic sequela of operation on the nose is acute tonsillitis. This may be terminated by a 25-cm. dose of antistreptococcus serum.

BACTERIOLOGY and PATHOLOGY

Edited by Wm. H. Bailey, A.B., M.D.
Wesley Hospital, Oklahoma City

The Precipitin Reaction in the Diagnosis of Scarlet Fever and Allied Hemolytic Streptococcus Infections: E. C. Rosenow, M.D., Rochester, Minn. Journal of A. M. A., January 2, 1926.

The convincing proof offered by the Dicks of there being a specific hemolytic streptococcus as the true etiological factor of scarlet fever, has been universally accepted. There has been a presumptive susceptibility test evolved similar to the Schick test in diphtheria, a method of active immunization, a means of producing an antitoxic serum in the horse, and a procedure for identifying scarlet fever streptococcus through the neutralization of toxin in vitro with convalescent serum and experimentally produced antitoxic serum. Yet the relation of scarlatinal streptococci to other streptococci, and the reason for the occurrence of epidemics remains unanswered. The prevalence of numerous cases of sore throat and tonsillitis during an epidemic of scarlet fever has caused certain clinicians to regard many of these cases as scarlet fever without rash.

The author has carried on a series of experiments which he believes have an important bearing on the genesis of scarlet fever. He finds that the scarlet fever streptococci appear in some way to be related to other hemolytic streptococci and that the time at which a certain streptococcus may cause scarlet fever may be only a certain phase in the life cycle of that group of streptococci. His summary is as follows:

Hemolytic streptococci of scarlatinal type, as determined by the precipitin reaction, were demonstrated in the throat during the onset in fourteen cases of scarlet fever with rash and five cases of scarlet fever without rash; and hemolytic streptococci of nonscarlatinal type were demonstrated in most of these during convalescence and also throughout the attack in three cases of acute follicular tonsillitis. Moreover, according to this test, scarlatinal hemolytic streptococci were demonstrated in the tonsil of an adult who had had tonsillitis two weeks previously, in the throat and pus from an infected finger in a case of scarlet fever, and in the pus of an infected knee of a boy who did not have a rash, in the empyema pus in a case of typical surgical scarlet fever, and in cases of otitis media and mastoiditis. The clinical findings in the throat and elsewhere in cases in which there was no rash, and in which the precipitin test was positive, were like those of scarlet fever, and in one of these, precipitin, toxin production and neutralization tests were all positive. Hence the precipitin reaction with suitable scarlatinal immune serums may be considered of value in determining the presence or absence of scarlatinal hemolytic streptococci in the throat and elsewhere, not only in scarlet fever but in other infections. Since the test is easily made and the

results are obtainable quickly, and since it is positive at the very outset of the infection, it should prove of great value in determining the nature of the infection in the throat, ear and mastoid at the time of epidemics of scarlet fever, especially in persons who have had scarlet fever or who have presumably been rendered immune by the Dick method of injection of toxin. A positive precipitin reaction at the outset in cases of infection of the throat, suggestive of scarlet fever, whether the Dick test is positive or negative, and irrespective of any history of scarlet fever or prophylactic inoculations, should, in the light of these results, be considered tentatively to indicate scarlet fever and should lead to the institution of immediate precautionary measures and perhaps specific serum treatment.

The Dick test was found to be a reliable index of susceptibility of the skin or rash. It was positive at the time of the attack and negative during convalescence in each case tested, but according to my experiments, immunity of the skin to rash and to injections of the specific toxin does not always run parallel to immunity of the throat, and so forth, to infection by scarlatinal hemolytic streptococci. On the basis of the results of these experiments it would appear that the supposed immunity to scarlet fever following an attack, and therefore perhaps following prophylactic inoculation, may mean chiefly immunity of skin and perhaps other tissues to toxin and not immunity of the throat and certain other structures to infection by true scarlatinal hemolytic streptococci.

These facts and the proof of identity of toxin produced by strains isolated from scarlet fever, and certain ones isolated from other sources, indicate strongly that specificity in scarlatinal hemolytic streptococci may be an acquired and temporary property.

The Relation of the Bone Marrow to the Lymphatic System. Anatole Kolodny, M.D., Iowa City, Iowa. Archives of Surgery, November 1925.

The study of the lymphatic system is still far from complete. The question of the lymphatics of the bone marrow is especially obscure. The author was not satisfied with the statements of numerous investigators that the bone marrow did not possess lymph vessels. He reasoned that because their technique failed to demonstrate any marrow lymphatics was no proof of their absence. He set about to investigate this problem from another angle than that of injection of various dyes directly into lymphatic vessels. His method of approach was through physiological channels based on the so called Cohnheim's law for the entry of T. B. into the body. That is, the lymphatic glands that receive the lymphatics draining the area of entrance of the bacteria into the system will show specific changes. Using this as a working hypothesis he introduced certain dyes into the medullary canal of the long bones, and at a later date he examined the various groups of lymphatic glands in adjoining regions of the body to see if any of the dye could be discovered. It was found that the dye was carried to certain very definite regional lymph nodes for each bone investigated.

This experiment although proving that there was a definite lymphatic connection between the

bone marrow and the lymphatic system outside the bone, yet it did not prove any definite lymphatic system within the bone. Careful search disclosed a lymphatic vessel stained by the dye emerging from the bone at a constantly definite location on the surface.

This definite direct relationship of the bone marrow to the lymphatic system is of importance in the pathology of metastatic epithelial bone tumors. Carcinoma is known to metastasize almost universally through the lymphatics, yet when it came to metastasis in bone that was thought to be through the blood vessels. Bone metastasis now can also be considered as being brought about through the lymphatics in the same manner as metastasis to any other region.

Conclusions:

The bone marrow is directly related to the lymphatic system. It drains its lymph into certain groups of lymph nodes, the regional lymph nodes of the respective bone.

The regional lymph nodes of the bones of the upper extremity are the cervical lymph nodes in dogs, corresponding to the supraclavicular lymph nodes in man.

The regional lymph nodes of the bones of the lower extremity are the iliac lymph nodes in dogs, corresponding to the external chain of the external iliac group of the hypogastric lymph nodes in man.

The direct relationship existing between the bone marrow and the lymphatic system forms the anatomic basis for the lymphogenous theory of metastasizing of carcinomatous tumors to the bones.

Deviations from the normal in the flow of lymph, namely, the aberration of the lymph stream, the retrograde lymph stream and the reflux lymph flow, can lead to the metastatic spreading through the skeleton of carcinomatous cells transported in the lymph circulation from the primary tumor.

UROLOGY and SYPHILOLOGY

Edited by Rex Bolend, B.S., M.D.
1010 Medical Arts Building, Oklahoma City.

Pyelonephritis Complicating Pregnancy.

Case report. Was called in consultation to see patient four months pregnant, who gave history of having had left kidney removed 2 years previously because of marked pyonephrosis. Examination revealed following:

Temperature 104—intense pain in left loin; nausea and vomiting; frequency and urgency of urination; patient stated this had been troublesome for several days, but thought it was due to pregnancy.

Catheterized bladder, urine highly acid; pus cells; R. B. C.—, albumin; bacteria.

The following two days patient had three septic chills followed by fever 104 to 105. Nausea and vomiting continued, toxemia and prostration approaching rapidly. Regardless of objection of the attending physician, I urged cystoscopy and drainage of the kidney per ureteral catheter. The fourth day this was consented to. Bladder showed signs of inflammation and just a little difficulty was had in locating the ureteral orifice, this was accomplished, however, with very little pain to the patient. Obstruction was met in lower third of ureter. By gentle manipulation this was over-

come with No. 7 Garceau catheter. Another lesser obstruction was encountered about midway, where the ureter passes the large vessels. On entering the kidney pelvis about 30 c.c. of thick, purulent urine came in a continuous stream. After this stopped was able to aspirate 5 c.c. more of very thick fluid, this contained staphylococcus and *B. coli*. The kidney pelvis was washed with distilled water followed by one per cent mercurochrome, catheter was left in 36 hours, kidney pelvis being washed every 12 hours, followed by mercurochrome. After drainage by catheter, no chills followed. Upon withdrawal there was slight elevation of temperature for seven or eight days but never over 100. Patient was sent home to return every ten to fourteen days for subsequent lavage, this was continued throughout gestation. During the last two months some little difficulty was experienced due to enlarged uterus.

The attending physician states, "this patient had a normal delivery. I am firmly convinced she could not have gone through pregnancy had not the pelvic drainage been done".

Dr. John E. Hall of Nashville reports a very similar case in *Journal A. M. A.*, with only minor changes in technique.

Prostatism vs Prostatic Hypertrophy.

Dr. Robert V. Day of Los Angeles in *Journal A. M. A.*, objects to the term prostatic hypertrophy. Day uses the term prostatism, and defines it, "an adenomatous or sclerotic condition of the prostate causing obstruction in some degree to the outflow of urine through the urethra".

It strikes us that the term prostatism is quite as general and does not fit the definition any better than the word hypertrophy.

High Protein Content as a Factor in Etiology of Chronic Nephritis.

Drs. Newbury, Marsh, Curtis and Sarah Clarkson M. S., in the *Journal of A. M. A.*, make a very detailed and interesting report on the effect of high protein diet as a factor in the Etiology of Chronic Nephritis, their work has been systematic and every precaution taken to avoid errors and to simulate as near as possible the conditions as presented in the human.

Egg white, casein, soy beans and dry powdered lean beef were used. These were used in different series and in different mixtures on Carnivora, Herbivora and Omnivora and in all cases found that protein above a certain limit produced damage to the kidneys (casts and albumin). The authors continued with their work in attempt to find what element of the protein was responsible for the damage. They injected intravenously into normal rabbits and puppies 12 of the amino-acids that result from the digestion of proteins. Glycin, Olanin, Phenylalanin, Glutamic acid, Leucin and Arginin produced no ill effects. Aspartic acid was injurious to kidneys of rabbits but not to dogs. All of the following gave undisputable evidence of kidney damage.

Lysin, histidin, cystin, tryosin, tryptophan. This work also emphasized the fact that while proteins may be harmful in large amounts, it is still essential, in the proper development of the individual, Osborne and Mendel have shown that a casein

diet of eight per cent will not produce a normal growth, whereas if 0.24 per cent., of cystin is added a normal growth is obtained, thus the cystin in anything above .25 per cent is injurious, it is necessary in that amount.

The authors arrive at three possible conclusions, but are inclined toward No. 3, viz., that protein is one of several etiologic factors.

The Kahn Test for Syphilis

The Kahn precipitation test is rapidly gaining in popularity. The use of such variable factors as guinea-pig complement and sheep blood cells are eliminated, and in this respect error is much less likely than with the Wassermann. It is rapidly executed and shows quite early in the course of the disease; this is a valuable purpose of elimination where it is necessary to do an immediate blood transfusion.

We are watching with a great deal of interest the results of the Michigan department of health which has ceased to run Wassermann tests on routine specimen for diagnosis of syphilis, the Kahn precipitation test only being used. Sufficient evidence of the reliability of the latter has been secured through thousands of comparative tests.

"The results of the Kahn tests are interpreted in the same way as the Wassermann, since the method of reporting them is based on a comparison of more than 160,000 parallel tests in the Lansing laboratory, and by many thousand reports made by contemporary investigators." The innovation in Michigan will be followed with interest by all interested in diagnostic service.

MERCURY AS A SPIROCHETIDE

It has long been the unique distinction of the arsphenamines (606 and its successors) that in non-toxic doses they were capable of acting as spirocheticides, whereas mercury has always been given in subcurative doses because of its comparative toxicity. Now the claim is made that the organic mercury compound, Mercurosal, is spirocheticidal in non-toxic doses.

Based on animal tests in cases of syphilis artificially induced, the spirocheticidal dose of Mercurosal for a luetic patient has been fixed at 3.5 milligrams per kilo of body-weight, the injections (intravenous) being repeated at intervals of three days until ten are given. A 70-kilo patient would therefore receive 245 milligrams (0.25 gram at a dose; but it is advised that smaller doses be given at first to test the patient's sensitiveness toward mercury.

The manufacturers, Parke, Davis and Co., put out an intravenous dose of 0.1 gram, and in addition a 50-cc rubber-diaphragmed bottle containing in each cubic centimeter 0.025 gram of Mercurosal or 0.25 gram in 10 cc. It is claimed that, with caution, the dose can be built up by degrees to this figure, or, if doses of 0.2 gram or less are preferred, the injections can be given at two-day intervals. Mercurosal is said to be harmless to the vein; and this being so, the intravenous method of administration is, of course, the ideal one. See Parke, Davis & Company's advertisement on Mercurosal in this issue.

BUREAU OF MATERNITY AND INFANCY STATE DEPARTMENT OF PUBLIC HEALTH OF OKLAHOMA

LUCILE SPIRE BLACHLY, Director

"Why are my patients not getting the literature I requested you to send them?" was asked by numerous physicians of the Bureau of Maternity and Infancy in the not remote past.

The cut accompanying this article helps to explain. A certain number of franked envelopes are furnished as a part of the federal contribution to the cause of child welfare. Through no fault of the National Bureau of Maternity and Infancy the printing and shipping of these envelopes was delayed, hence the stacks of letters awaiting envelopes. The small number on hand was quickly exhausted when the physicians began sending in names in response to the form letter requesting them. The postage fund in the budget would not permit paying postage on so many heavy packages. There was nothing to do but await the envelopes which were daily expected.

Lack of both stenographic help and postage prevented personal replies to all the numerous requests—hence this tardy explanation.

SPACE REQUESTED

A request for space was made of the management of the Journal and from now on we hope to reach the profession with information of special interest to the doctors. As the work goes on the page will take on added features. It is conceivable that members of the profession might have something of interest to include in this page. Oklahoma's standing as regards the maternity and infancy death rate and like matters will be given.

A statement of the plans of the Bureau and an explanation of the child care classes being taught in the public schools, and the mother-child classes offered to the mothers of young children and to expectant mothers, the child health conferences, the health centers, prenatal clinics and so on will be given from time to time.

PRENATAL NAMES

Approximately 7000 names of expectant mothers were received by the Bureau of Maternity and Infancy from January 1, 1925, to January 1, 1926. Physicians sent in approximately 2000 of these.

Only two requests have been made to stop the letters. One of these was written by the expectant father, who sarcastically inquired how we knew there was a new baby at his home for which he was to be congratulated. Evidently our information was erroneous. The other was from the mother of seven children who said she was already trying to do the best she could. She is entitled to a personal interview. Numerous letters of praise have been received and to our surprise a goodly number of these come from the mothers of three to seven children. One, the mother of fourteen children, wrote us from Mississippi that there was always something new she could learn every day.

A number of letters of approval from the profession have also come in. These we naturally appreciate all the more because we know that back



STACKS OF LETTERS AWAITING MAILING

of them is a series of years of serious study and more years of hard earned experience.

We trust the physicians will continue sending in the names in ever increasing numbers. Blank prenatal cards will be sent in any quantity desired upon request.

L. S. B.

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NOTE—Corrections and additions to the above list will be cheerfully accepted.

A CASE OF INFANTILE DIABETES TREATED WITH INSULIN

Harold M. Bowcock and James A. Wood, Atlanta, Ga. (Journal A. M. A., Jan. 9, 1926), report their experience with eighteen months' treatment of an infant in whom diabetes was discovered at 16 month of age. Diet regulation and administration of insulin constituted the treatment. The striking feature in this case has been the practically normal increase in height, in contrast to the stunting of growth that was observed in diabetic children before the advent of insulin. This case has been successfully managed without blood sugar determinations, but the authors do not recommend the disregard of this helpful adjunct to the control of treatment. Blood sugar readings have seemed valueless in this case because of the apparent lability of the metabolic processes in this child. There was frequently observed in from two to three hours' time a change from a urine that was free of sugar and diacetic acid to a specimen loaded with both. Insulin reactions could be recognized only by objective symptoms, since the patient was unable to communicate his subjective feelings. Because of the difficulty in recognizing hypoglycemic reactions before they were well developed and because of the apparently very rapid change in blood sugar levels, the attempt to keep the urine constantly sugar free was abandoned. As the patient has grown older, this apparent lability of metabolism has decreased somewhat, and consequently it has been possible to decrease the insulin dosage slightly and give it in two daily injections instead of three. The decrease in insulin dosage while taking a quite constant and uniform diet suggests some improvement in tolerance.

DIPHTHERIA IN EUROPEAN CITIES

The special article on diphtheria death rates in large European cities, emphasizes the great improvement that has taken place throughout the world since the introduction of antitoxin treatment. At the same time it is evident that the decline has not been uniform in all countries. In the United States, diphtheria death rates in the years preceding the introduction of antitoxin were

considerably higher than those in Great Britain for the corresponding period. A much larger proportional reduction in the diphtheria death rate seems to have occurred in the United States than in Great Britain in recent years. A comparison of Germany and Great Britain shows a similar relation: the 1924 rates were proportionately much lower in the German than in the British cities, while during the decade 1880-1893 the reverse was true. It is remarkable that three European cities—Southland, England; Toulouse, France, and Geneva, Switzerland—reported not a single death from diphtheria for the year 1924. Another point worth noting is that the Scottish cities Edinburgh, Dundee and Glasgow, which had relatively low rates from typhoid, had relatively high rates from diphtheria. This corresponds to the general prevalence of these two diseases in the United States.—Jour. A. M. A., Jan. 16, 1926.

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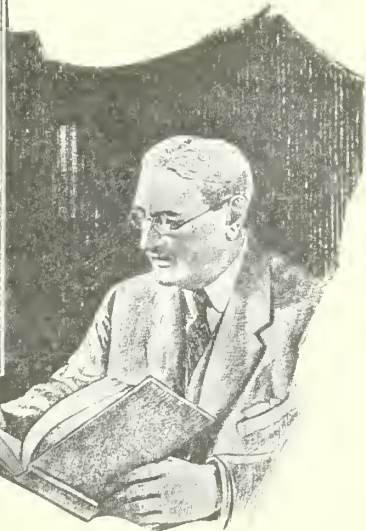
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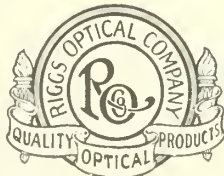
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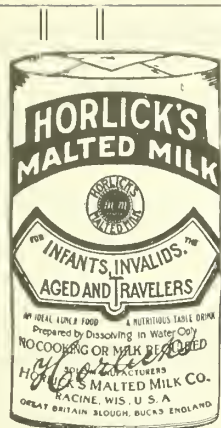
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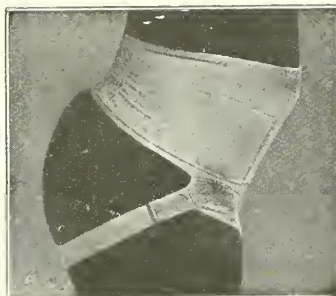
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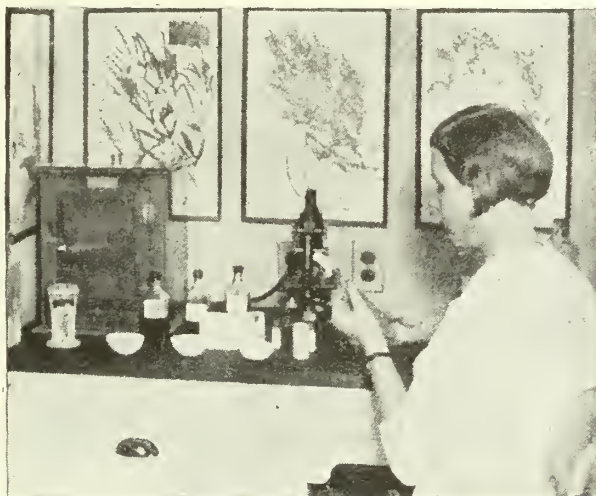
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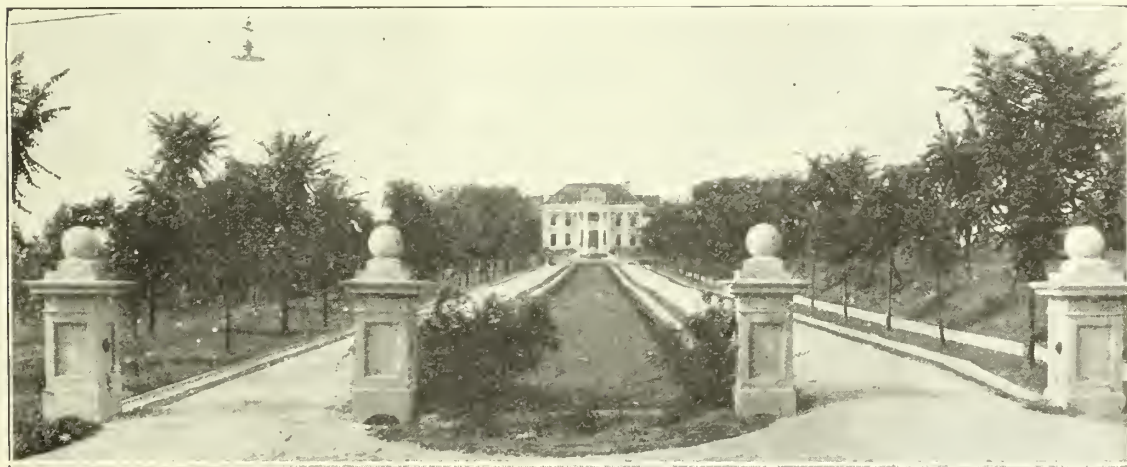
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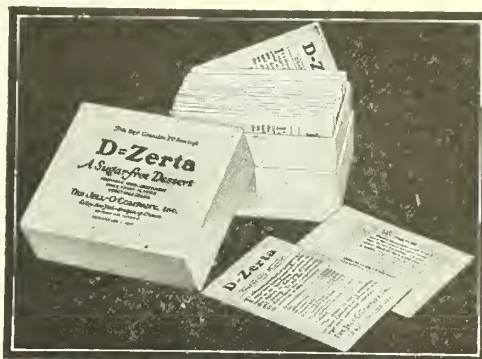
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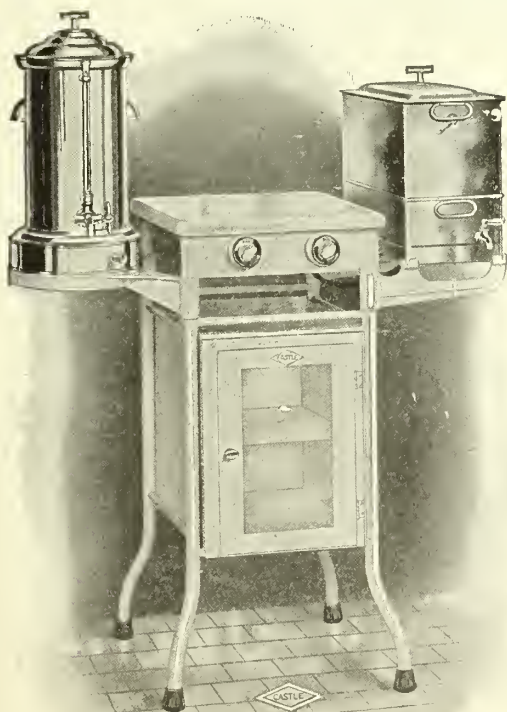
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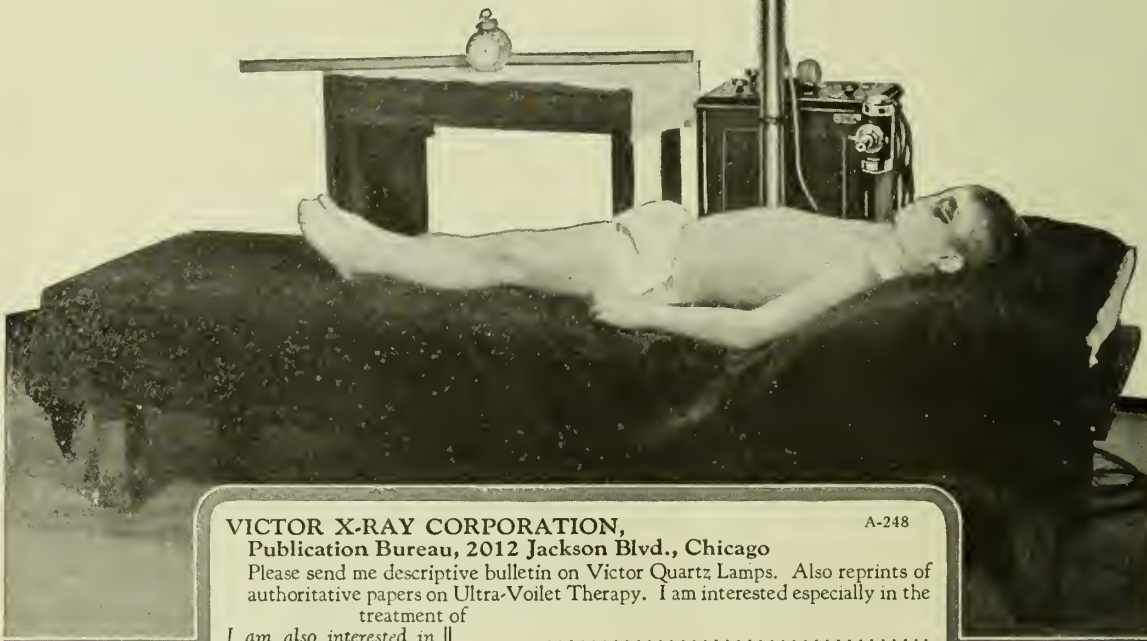
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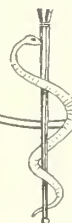
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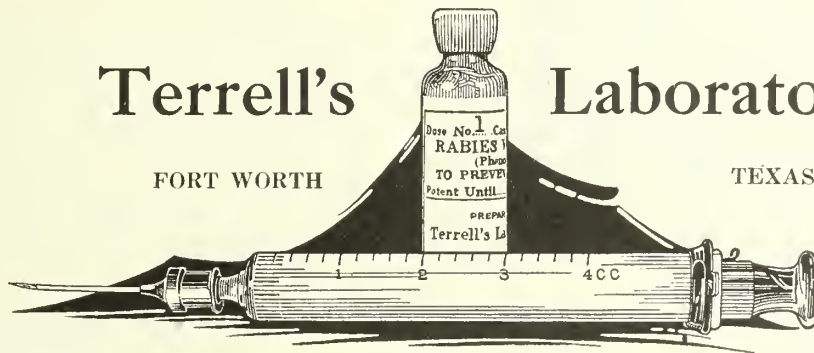
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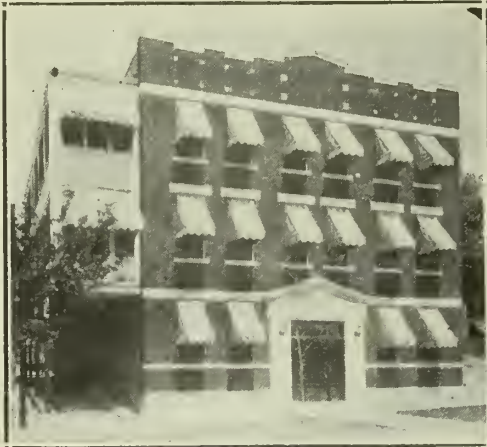
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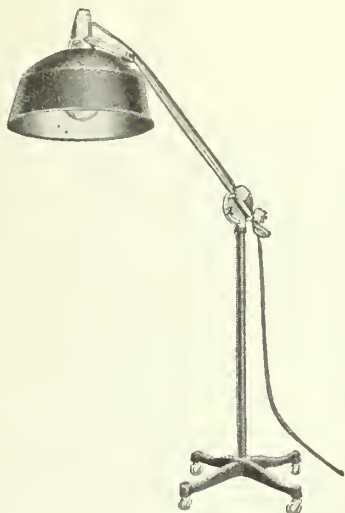


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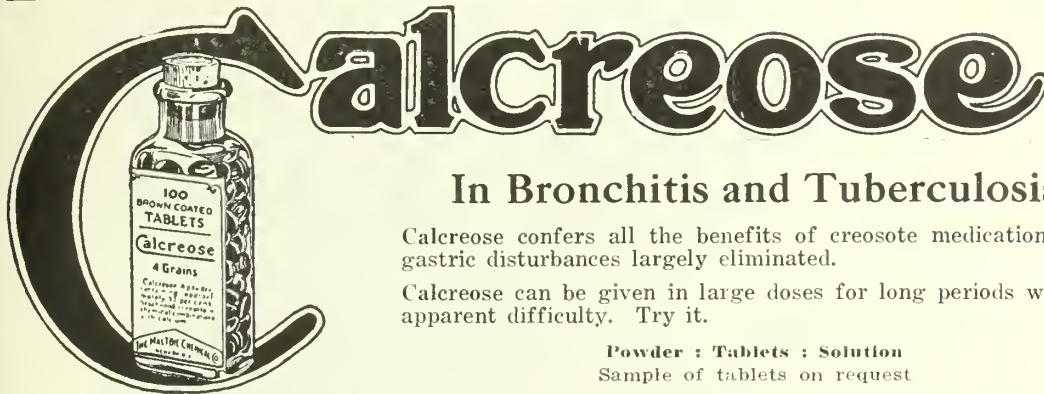
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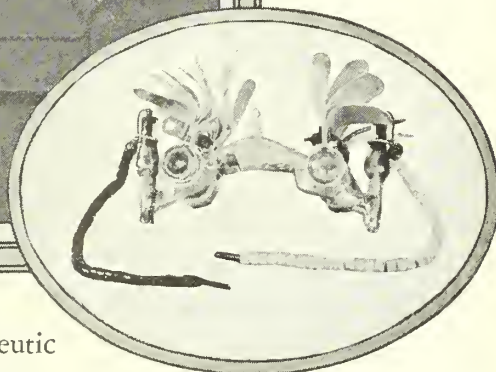
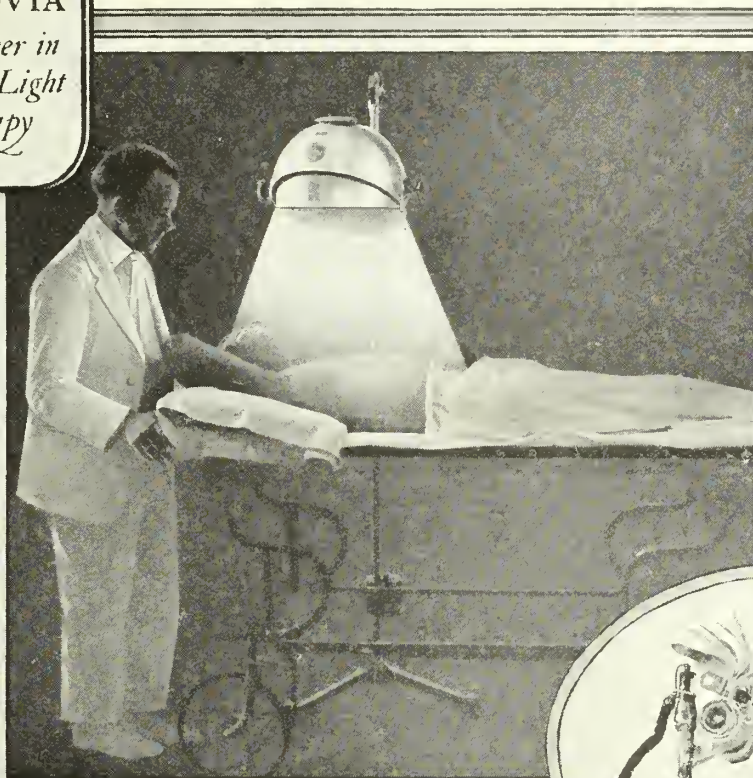
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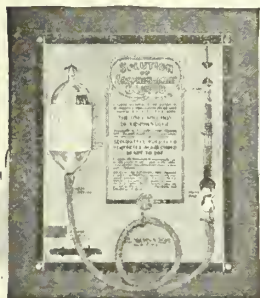
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A SURVEY OF OKLAHOMA FLORA, WITH A STUDY OF ONE HUNDRED AND TWENTY-ONE CASES OF SEASONAL HAY FEVER*

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In connection with our study of 121 seasonal pollen hay fever cases during 1925 we finished a survey of the flora of Oklahoma. Of the cases studied 73 were diagnosed and treated prior to the season but in 48 cases patients were not examined until after the onset of their symptoms. These were given co-season treatment.

Our study of hay fever during the last seven years has made us realize that intelligent diagnosis and treatment of this disease cannot be done without knowing well the botany of the localities in which the hay fever sufferer lives. This conclusion led us to make a rather extensive study of the botany of Oklahoma and of Cleveland Counties, which are centrally located and whose topography is such that the flora is fairly characteristic of many other countries. Moderately detailed study has been made in other counties, and a map under construction showing the various predominating wind-borne pollinating plants in all the counties, will soon be finished. The state of California has been carefully studied by Professor H. M. Hall¹, George Pinness² and Albert Rowe³. Such a study has been made by Watson and Kibler⁴ in Arizona, Key⁵ and Kahn⁶ in Texas, and Duke⁷ in Kansas and Missouri. Our survey was started two years ago and is just being completed. So far as we can find, the botany of our state has never been studied before with reference to hay fever and asthma. At least, a report of such a study has never been recorded in literature.

*Read before the Section on General Medicine, Neurology, Pathology and Bacteriology, Annual Meeting, Oklahoma State Medical Association, Tulsa, May 12, 13, 14, 1925.

With the assistance of Professor T. R. Steman we were able to study the pollinating season, the amount of pollen produced, the size of the pollen and the extent of growth of plants in various localities. In Cleveland County we found 73 species of grasses. Similar studies were made of the amaranths, chenopods, the ambrosia group and other minor groups.

TREES

Comparatively speaking, trees play a minor part as the cause of hay fever. The most active trees that we have as a cause are the cottonwoods and oaks. Cottonwood (*Populus deltoides*) begins to pollinate from the 5th to the 7th day of April and continues for about three weeks. Most of the patients give their history of onset of symptoms from the 7th to the 9th. The cottonwood is abundant in some sections, making it a common local cause, but in the entire western and northern sections of this state it plays no part at all. In certain localities in the eastern and southern parts, along the lowlands of the streams, the cottonwood is rather abundant. Oak (*Quercus marilandica*) is the most common tree in Oklahoma. Its pollen is 20 to 30 microns in diameter and the pollen is fairly profuse. It would be a larger factor in the production of hay fever if it were not for the fact that its pollinating season is from the 15th of April to the 1st of May, during which time there is an abundance of rain. It so happened this year that April had practically no rain and we saw a large number of cases of hay fever due to oak. This year is a very uncommon one.

GRASSES

Within a radius of forty miles of Oklahoma City 79 species of grasses were found pollinating fairly profusely in September and October. Some of these grow profusely, making them an important factor in the cause of hay fever from May first, which is the date of onset of pollination of several, to November third, the average date of our first killing frost. The earliest

pollens found in the air were from slender fescue grass (*Festuca octoflora*) and chess grass (*Bromus secalinus*), but the amount of pollen is small, making them clinically unimportant. About May fifteenth, Bermuda (*Capriola dactylon*) begins its season of pollination, continuing until a killing frost. Bermuda grows on 98 per cent of the lawns in the state of Oklahoma, making it the most important factor of all our grasses, as the pollen is small (22 microns in diameter), is wind-borne, and located so near to the home of the sufferer. In the southern and eastern portions of the state Johnson grass (*Andropogon halepensis*) must be considered, as the amount of grass is fairly abundant and the pollen fairly profuse. It would be a great factor in these sections if it were not for the size of the pollen, which is more than 40 microns in diameter. The growth is chiefly in the lowlands away from many of the homes, which also decreases materially its importance. Indian grass (*Sorghastrum nutans*) is by far the most common grass in our state, but not unlike corn and Johnson grass, the pollen is very heavy, making it only an occasional offender. Pollen plating in the ordinary places where we put our plates will seldom pick up the pollens of Indian grass, but the pollens of Bermuda can be found in the air on any dry day, most anywhere in the cities and towns, from the first day of June to about the first of November. Many of the grasses that produce a small or moderate amount of pollen would not in themselves produce hay fever symptoms, but patients sensitive to one grass are so frequently sensitive to many, so the combination of several make the grasses a fairly important factor.

CHENOPODS

Lambsquarter (*Chenopodium album*) is widely distributed throughout every section of this state, both the prairie and the wooded sections. The pollen is small and wind-borne, and commonly found on pollen plates. Patients are frequently found sensitive to it on testing, but clinically we believe that the pollen is not a very toxic one and not a big producer of hay fever symptoms. Russian thistle (*Salsola pestifer*) is very abundant in the northern and north-western sections of Oklahoma and there it is a very common cause. The onset of pollination of this plant is about July 10th.

AMARANTHS

The amaranths, including *amaranthus spinosus* and *amaranthus retroflexus*, are widely distributed over the entire state; their pollination is fairly heavy in mid-summer and one frequently finds patients sensitive to both amaranths, and one would naturally assume that the amaranths are a very common cause of hay fever from June 20th to the 1st of September, which is their pollinating season, but at the same time the amaranths are pollinating, the western water hemp (*Acnida tamariscina*) is also pollinating, and the number of plants of the western water hemp is probably twenty times greater than that of the amaranths, and the profuseness of the pollen is also very many times greater. From clinical experience we believe that the amaranth plays a small part as a cause of hay fever in July and August. We believe that the majority of these cases at this time of the year that are not due to Bermuda and Russian thistle are caused by the western water hemp. It is interesting to note that during this season, with the exception of Bermuda, the pollination of grasses is not very profuse.

RAGWEEDS

Throughout all sections of Oklahoma there can be found growing three species of ragweed. The giant ragweed (*Ambrosia trifida*) and short ragweed (*Ambrosia elatior*) predominates in the eastern and southern sections, the western ragweed being found in small numbers. The short ragweed (*Ambrosia elatior*) and the western ragweed (*Ambrosia psilostachya*) grow very profusely in the western and northern sections. All three ragweeds are profuse producers of pollen. The average size of the pollen granule of the short ragweed is 15 microns, that of the western is 25 microns, and that of the giant is 20 microns. In some of the waste lands along the streams there are hundreds of acres of giant ragweed. Due to the size of the pollen, those sensitive to giant ragweed living in sections within a radius of ten to twelve miles of those lowlands, cannot get away from its pollen, and clinically we have found the people living in these sections to be great sufferers from it. In the cities and villages, nearly all the vacant lots are covered with the short or western ragweed, or both, bringing these plants very close to its victims. Our records show that 73 per cent of the hay fever people

tested are sensitive to one, two, or all three, ragweeds. The giant ragweed begins its season of pollination from the 14th day to the 17th day of August, the short and western ragweeds begin their season from the 18th to the 21st day.

MINOR CAUSES

There are several other weeds, such as marsh elder (*Iva ciliata*) and cocklebur (*Xanthium echinatum*), which are profuse in certain localities, so they must be considered as a factor. Throughout the entire state we have one sage (*Artemisia kansana*) which is fairly profuse in some localities but not abundant compared with either of the three ragweeds. It has been our experience that the number of people sensitive to sage on testing, are comparatively few, and we doubt that it needs to be considered seriously in treatment. Some of the cultivated plants, such as corn (*Zea mays*) are the cause of a few seasonal cases if they are in intimate contact with the plants. On account of the broken lands of the eastern and southern sections, a large number of insect pollinating plants grow, which must be thought of as a cause of hay fever in the cases of some of the ladies who decorate their homes with the same.

DIAGNOSIS

It is estimated by Sheppegrell⁸ that one per cent of the people of the United States have seasonal hay fever. There are many cases of perennial hay fever, usually due to proteins other than pollens. However, many seasonal pollen cases go into the fall with irritable mucous membranes and continue through the winter as such, making them appear as non-seasonal cases. A detailed history of allergy in the family, onset of symptoms, personal history of allergy, and a knowledge of the flora in the locality in which the patient lives, and of the onset of the pollinating seasons of the various plants, and a detailed history of the symptoms which the patient can give, as lachrymating eyes, congested and itching nose, and itching of the roof of the mouth, will help very materially in differentiating a pollen seasonal case from other types of hay fever. If skin tests with pollen are all negative, in cases giving a history of definite seasonal hay fever, a greater variety of pollens should be used in testing, and then if negative, intra-cutaneous tests should be done, especially if the patient is over 40 years of age. The group

of cases we are reporting are all private cases, studied in 1925, and vary in ages from 4 to 71 years. The average age of onset was 22.5 years. The average age at time of treatment was 34.3 years. Fifty-two per cent of all the cases gave a history of allergy on one side of the family, and seven per cent gave a bilateral family history. This makes a total of fifty-nine per cent with a history of allergy in the family, compared with 64.8 per cent with a family history of allergy, in a series of asthmatic patients under 12 years of age, which we have recently studied.

RELATION BETWEEN HAY FEVER AND ASTHMA.

It has been estimated by some workers that at least 66 per cent of seasonal pollen hay fever patients either developed asthma from the beginning or some time later in life. 53 per cent of our series of 121 seasonal cases gave a history of frequent winter colds, 34 per cent with bronchial colds and 26.4 per cent with frequent attacks of asthma, complicating their hay fever. It must be kept in mind that the average age at which my patients were treated was 34.4 years. It seems reasonable by the time these patients continue their trouble for a period of years that they will develop asthma in the fifth, sixth and seventh decades of life, bringing the number of these cases with asthma as a complication up to at least 66 per cent.

METHOD OF TESTING

The routine method of testing was the scratch (cutaneous) method, which has proven most satisfactory. Pollen extracts in strength of 1:50 were used instead of the dried pollen. In our series we found two cases, both over 40 years of age, with typical symptoms of seasonal hay fever, with negative skin tests, to be definitely positive to the intra-dermal test. It appears that patients over 40 years of age frequently lose their skin sensitivity, so in such cases giving typical seasonal hay fever history with negative skin tests, as obtained by the routine method, it is our custom to use intra-dermal tests. Constitutional reactions may be met with, which is the objection to the intra-dermal test, but if the skin test is done first routinely, the patient in all probability will not be so sensitive that constitutional reactions will be obtained by using the intra-dermal. Working in this way we have seen no constitu-

tional reactions. We believe a reaction to be positive must consist of an irregular urticarial wheal with definite pseudopodia surrounded by an erythema. We have found several asthmatics over 40 years of age whose skin reaction, however, instead of being typical, as above outlined, was only a definite itching. In these cases when the intra-dermal was done, very definite positive reactions were obtained. Such slight reaction as itching must certainly be taken into consideration.

POLLEN SENSITIZATION

The rule has been in our experience that hay fever patients show multiple sensitivity. There are many exceptions, however. Only 18 per cent of our cases gave a reaction to only one pollen, 74 per cent were sensitive to one, two, or all three ragweeds, 40 per cent to *amaranthus spinosus*, 43 per cent to *amaranthus retroflexus*, 33 per cent to water hemp, and 31 per cent were sensitive to the grasses, usually several grasses, Bermuda being the most common.

Bernton² has recently pointed out that patients may show cutaneous sensitivity without a sensitive mucous membrane. Clinically I have examined several cases which bear out this statement. These patients would show a marked clinical reaction to a pollen that is in the air in large amounts, but no hay fever symptoms. We must feel, however, that they are candidates for seasonal hay fever. It is not uncommon, as I have previously mentioned, to find patients with a sensitive mucous membrane but a negative skin reaction. These are the patients that Walker, several years ago, so frequently mentioned as typical asthmatics or hay fever patients over 40 years of age of the non-sensitive type. It is not uncommon to find a patient giving a history of typical seasonal hay fever, who has lost his hay fever in the fifth or sixth decade of life, but who has developed perennial asthma. The cutaneous tests again are usually negative but the intra-dermal may be positive. It is common to find patients showing skin sensitivity to many insect pollinating plants that are playing no part in their symptoms and must not be considered in treatment with the exception that they should be told to avoid such flowers in decorating their homes.

TREATMENT

Before one can intelligently treat hay fever the pollinating dates of the pollens of the flora in the locality in which the patient lives must first be known. The history of onset of the patient's symptoms should be carefully taken and compared with the pollinating dates. The positive skin tests or intra-dermal, should be made, and these should be compared with the history and the pollinating dates. One must also take into consideration the extent of growth of the plant, the amount of pollen produced and the amount of pollen in the air at the time the patient's symptoms appear. This calls for pollen plating. By this process of reasoning the correct pollen for treatment can usually be chosen. Desensitization is just about as specific for pollen hay fever or asthma as is quinine for malaria or arsenic and mercury for syphilis, providing the offending pollen is selected for treatment and the treatment carried sufficiently high, but to treat a case of hay fever due to *acnida tamariscina* with *amaranthus retroflexus* with the hope of getting relief would be just as foolish as treating a case of syphilis with quinine and wondering why the Wassermann reaction remained positive.

My experience with the specific action of pollens in therapy has been similar to that of Bernton¹⁰, Piness¹¹, Watson, Rowe¹² and many others working in this field. I have desensitized patients sensitive to Bermuda with timothy extract, with only 25 to 30 per cent or no relief. These same patients treated with Bermuda extract would get excellent results in the majority of cases. I have had in times past the sad experience of treating many patients with *amaranthus retroflexus* who were also sensitive to *acnida tamariscina*, without results. A fairly large group of these same patients the season following were desensitized with *acnida*, with very pleasing results. Here again we find a similarity to the use of drugs. Certain arsenical preparations may be specific for one spirillum but only slightly beneficial in the treatment of others.

Such specific action of pollen is not in accord with some of the workers in this field, especially Goodale¹³ and Sheppegrell¹⁴, who still believe that a patient sensitive to a member of a plant family can be successfully desensitized to any other member of that family.

The pollen extracts we have used were made up according to the glycerol salt method described by Clock¹⁵. The pollen from which the extracts were made was collected in the following manner: the plants were pulled up by the roots, the flowering top washed and the roots put in buckets of mud in a dust-proof room in such a position that the flowering top hung over glass plates. Each morning the pollens were swept up from the plates with a fine brush. The plants under such a condition will live, apparently normal, for four or five days. This allows us to obtain pollen which is free from dust and from leaves. Our products were all made up in 2% solutions.

Of the 121 cases treated, 73 were given pre-seasonal treatment, which is the method of choice. All cases were started with a dilution just greater than the weakest dilution to which they were sensitive. Treatment eight to ten weeks prior to the onset of symptoms, giving doses at four and five day intervals. Our initial dose usually consisted of .15 c.c. of 1:10,000 dilution. The majority of patients would reach .1 c.c. of 1:50 dilution before constitutional reactions were encountered. Patients vary widely in their end-point dose, just as we see patients differ widely in their ability to take large doses of drugs. It has been our experience that unless the patients can take as high as .2 c.c. of 1:50 dilution relief from their symptoms will not be 100%, so we have tried various methods of overcoming the slight or great constitutional reactions obtained.

USE OF ADRENALIN

For several year adrenalin has been used freely in overcoming the constitutional reaction obtained in treatment, after the reaction appeared. This we have used, and are still using, but we have used adrenalin in a different way this last season, with some striking results. After the dosage would reach a point that the patient showed the slightest of constitutional symptoms or even a local reaction, we would put in the same hypodermic with their pollen protein .15 to .2 c.c. of adrenalin hydrochloride 1:1,000. We found by so doing that the protein would enter the system very slowly, allowing us to give patients much higher dilutions without constitutional reactions. It was not uncommon to find patients who gave a constitutional reaction at .35 of 1:250 dilution, in

whom we would get a reaction on repeating the same sized dose, that, with the use of adrenalin, as above mentioned, we could carry the doses higher and higher each time until they would reach .2 to .3 c.c. of 1:50. This, in our judgment, is of great importance, as we all believe that it is very important to be able to carry the patient fairly high in their dosage. Walker many years ago pointed out this fact. Surgeons for a number of years have made use of adrenalin in retaining novocain in local areas for considerable time. In our work we consider it to have increased our results 20% to 30%.

IMPORTANCE OF CONSIDERING MULTIPLE SENSITIVITY IN TREATMENT

Of our entire group, 80% were sensitive to more than one pollen. This makes it necessary to desensitize with more than one pollen if good results are obtained, in the majority of cases. As a rule, however, one or two pollens are the chief offenders and much care should be taken in selecting the one, two, or three from the many other pollens to which they may be sensitive. This we believe can be done by methods previously mentioned as to selecting the correct pollen.

RESULTS OF PRE-SEASON TREATMENT

In this analysis we have considered complete relief in those patients who have no more symptoms than the average individual during their season, except possibly for very slight irritation of the nose, such as they would have in the winter time after a killing frost. This group comprised 28% of all cases. The second group who obtained relief except for some sneezing and a little congestion of the nose, but not enough symptoms to disturb them, made up 45% of the total. This makes 73% with practical or complete relief. A third group of 18% obtained relief from at least 60% to 75% of their symptoms. Of the remaining 9% only three were not benefitted at all. Six per cent received from 25% to 50% relief. I firmly believe that in those cases that obtained no relief, either the correct pollen or pollens were not used in treatment or the treatment was not carried sufficiently high, and also in those patients with only partial relief, that the same thing is probably true.

RESULTS OF CO-SEASONAL TREATMENT

During the season 48 patients presented themselves for treatment. Of this number

we were surprised to find 33% lose more than 90% of their symptoms. Of the remaining, 20% received more than 75% relief, 24% more than 50% relief, and 15% noticed some relief, with only 8% reporting no relief at all. We attribute the high percentage of relief during the season to the fact that we carried their dosage fairly high with the aid of adrenalin, which we believe could not have been done without such aid without encountering marked constitutional symptoms.

CONCLUSIONS

(1) Intelligent diagnosis and treatment of seasonal pollen hay fever cannot be done without a thorough knowledge of the flora of the community in which the patient lives.

(2) A careful history of symptoms and onset of symptoms should be taken.

(3) In Oklahoma, western water hemp (*Acnida tamariscina*) is next to ragweeds as the most common cause of hay fever, Bermuda ranking third.

(4) The average age of onset of our patients was 22.5 years.

(5) The number giving a history of asthma, complicating hay fever, was 26.4%.

(6) The scratch method of testing is the method of choice to be used routinely, but the intra-cutaneous method many times is indicated in patients over 40 years of age.

(7) Multiple sensitization was found in 82% of the cases.

(8) Pre-seasonal desensitization is without question the method of choice. Seventy-three per cent of the cases received either complete or practical relief.

(9) Co-season treatment is certainly justified, as 33% of our cases received more than 90% relief.

(10) Pollen desensitization is about as specific for seasonal pollen hay fever as is quinine for malaria if the correct pollen or pollens are selected and the treatment carried sufficiently high.

(11) Adrenalin hydrochloride given in the same hypodermic with the higher doses of the pollen extract permits more thorough desensitization without constitutional symptoms.

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INJURIES TO THE SMALL BONES OF THE HAND AND WRIST*

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This paper is to present certain facts concerning small bone injuries, with special reference to the wrist joint and hand areas, emphasizing the necessity for X-ray study of the carpal area, so that we may avoid the disappointing results following improper immobilization in patients where definite injuries exist. The percentage of fractures of carpal bones to other fractures in this area is variously estimated from one and one-half to as high as four per cent. There are many injuries in the carpal region considered trivial, and treated without any special support, or possibly splinted for only a day or two, which later present the picture of a definite arthritis, which is spoken of as an "*arthritis manus post-traumatica*." Even when these injuries are supported for a week or two, we may develop a similar condition which emphasizes the necessity of watching these cases most carefully until it is definitely established that the patient is getting well. Where the injury is most severe, the arthritis may become general through the carpal bones, as well as the larger wrist joint, even though immobilization is con-

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tinued over a period of many weeks. I have in mind two cases: One, a man thirty years of age sustained a Colles fracture of the right forearm, with considerable jamming of the whole wrist area. The forearm and hand were bandaged for eight days, at which time X-ray was made, revealing the fracture. There was considerable swelling present. The fragments were in good position, so that no manipulation was done, and on the eleventh day following the injury, splint was applied, and kept in position for six weeks following the injury. The patient then attempted to use the hand and wrist, but there was much stiffness and discomfort, and eight weeks following the injury an X-ray showed a definite arthritis of the whole wrist area. There was no clear outline between the bones. This hand was put back on a splint to allow discomfort and swelling to subside. In about ten days splint was removed and the hand carried in a sling, but as soon as there was an attempt to use the wrist, the swelling again appeared, however, with less discomfort. A very light splint was again applied for ten days, after which the swelling did not occur to any extent, but there was still the discomfort on attempting motion. At this time, gentle massage was given to the forearm and hand; gradually beginning a little passive motion of the wrist. With the first passive motion there was no increase in either swelling or discomfort. However, at the end of two weeks more energetic massage and passive motion produced swelling for four or five days, during which time only massage was used. By this time we had pretty well determined the speed with which to increase manipulations and about sixteen weeks following the original injury, the injured began moderate work. Extreme motion in any direction remained painful, and especially when flexing the hand to the ulna side. However, there was no swelling and the man developed practically full power when the wrist is kept within the extreme motions.

The second patient: A man, injured December 9, 1924. *Diagnosis, was sprain of the left wrist.* The splint was applied to the forearm for about twelve days, after which he attempted to use the member. Swelling continued, and on January tenth, he came under our care. X-ray was made of hand, which showed an arthritis, involving entire left carpus and wrist. There was no fracture. The picture suggested an

infectious arthritis, as there appeared to be considerable bone erosion, and the usual marked clouding of of all joint spaces. On January 12, the eroded bone area was opened, just outside of the extensor tendons of the index finger, in the area of the os magnum, trapezoid and scaphoid. The bone was soft but there was no pus, nor did we obtain any culture. The wound healed quite promptly, and the hand was continued on a splint, and treated similarly to the injury above mentioned. This splint was removed from time to time in an attempt to begin massage and light passive motion, after reduction of swelling with forearm on splint; but each time the swelling and discomfort would immediately recur. It was not until March 14, that we were able to begin the massage, and it was not until March 28 that passive motion was lightly begun. Beginning about one week following the operation, dry heat was given, in the form of electric light, and this was continued throughout the massage treatment. This treatment was continued until the last of April. The swelling and discomfort had practically disappeared, but the stiffness of the wrist and fingers still prevented flexion to more than one-third the normal. There was no grip, as the fingers could not be flexed sufficiently. At this time a glove with a leather band around the wrist to prevent slipping and afford attachment for finger-pull, was applied, the glove fingers having attachments for pull, which would exert a constant traction and increase the finger flexion. The patient is now at his home, continuing this treatment, and while there will be some permanent disability, I feel very sure that we will have a good working extremity.

This is an injury to the wrist without fracture, developing an arthritis of the traumatic type, exaggerated by too short a period of immobilization, immediately following injury.

Too long a period of splinting, we all realize, is not good treatment in fracture cases, as it materiall prolongs the disability period. But in the type cases, just cited, it is most essential that we follow the injury very closely, beginning the massage and manipulative treatments, noting their effect, so that we may not lose a day more than necessary in trying to limber up the member. It is essential to remember that too early manipulations may not only increase the swelling and discomfort, but

may produce a similar condition to that of lack of proper early immobilization; that is, a breaking down of the bony structure, giving a fertile field for implantation of infection from some focal lesion.

"The stiff hand" is a very lamentable condition, both to the injured and the surgeon. Much work has been done along reconstructive lines in surgery of the hand. The most satisfactory reports that I have seen coming from the work of Sterling Bunnell of San Francisco. However, it is not the purpose of this paper to discuss reconstructive measures, but to give as much as possible to the prevention of the formation of conditions which need reconstructive measures. Many times the surgeon is criticized for such close observation of sprains by those who may be financially interested in the the office consultations. This should not be the case, for it is the proper determination of time for removal of splints that gives us the best functional results.

I was interested in a grouping of the causes of the rigid hand by S. Ciaccia:

First: Adhesion in the tendons and muscles of the forearm.

Second: Prolonged immobilization in splints.

Third: Changes in the joints themselves.

Fourth: Infections and changes in the tissues of the hand.

The second and third causes are the conditions above considered.

The treatment as advocated by Ciacca is along the lines as above described. Hot soaks, Bier hyperemia, massage, active and passive movements, splints to force the fingers into flexion and traction to force the fingers into extension. Also forcible manipulations.

Of the carpal injuries where the individual bones are considered, the scaphoid and semilunar are possibly the ones most frequently before us. The scaphoid may be fractured without other wrist injuries though when it occurs, it is often associated with dislocation of the semilunar; and, I might add that when the two conditions occur, the diagnosis is much easier than

with a fracture of the scaphoid alone. The treatment of the combined injury is most important, as displacements in this area usually give us a painful hand. Manipulation under the fluoroscope is the best way of getting the desired results. The cockup splint should be used for ten days, with massage, beginning as soon as the swelling subsides (four to six days) and passive motion beginning in ten or twelve days following the injury. But here, again, pain and swelling are the criterions by which we judge passive motion or rest with the continued use of splint. Should there be no improvement at the end of two weeks in the swelling, a roentgenogram should be made to note any arthritic changes. If arthritic changes are definitely noted immediate removal of the bone is indicated. Either treatment promptly and efficiently carried out, should give excellent results. With the semilunar dislocation alone, there should be no trouble in reduction during the first twenty-four hours. However, if the diagnosis is not made early, and pain and discomfort exist, it is best to remove the bone.

Goldtwait mentions the "flat hand", and calls attention to the maintenance of the carpal arch, and the necessary part which it plays in the proper function of the hand. When this arch flattens the palmar tendons are no longer held in place by the hook of the unciform, and the trapezium; and a weak and painful action results.

In cases where this has occurred, he suggests a light wrist strap, with two pellets, one on either side of the trapezium, and a thumb loop to retain strap in place. The arch may thus be restored, and function rendered painless.

CONCLUSIONS

(1) Early diagnosis and treatment usually result in a useful hand. (2) Manipulations should be made under fluoroscope, when possible. (3) In late diagnoses, do not hesitate to remove the bone. (4) Use early massage and passive motion, as soon as pain and swelling subside. (5) X-ray of wrist and hand should be most carefully examined, for carpal injuries even though they are not suspected.

WRIST JOINT INJURIES, A PLEA FOR GREATER ACCURACY IN TREATMENT*

EARL MCBRIDE, M.D., F.A.C.S.
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There is perhaps no fracture of which more has been said, none which is simpler to care for and no deformity which is so frequently seen as that resulting from Colles fracture.

Before the advent of the X-ray and of compensation insurance it was not so difficult to satisfy the victim of this injury. Now, however, a great deal more accuracy is demanded. The patient and relatives must see the X-ray. Industrial disabilities are measured in dollars and cents and permanent impairment of function means, not only financial loss to all parties concerned but often casts embarrassing reflections upon the surgical skill of the attending physician.

In view of the fact that the subject is one with which every physician is supposed to be well acquainted, there seems to be no other explanation for the frequency of bad results than that there is often a lack of thoroughness in undertaking treatment. A fracture case is frequently of more risk to the physician's reputation than surgery of a more serious character, yet it is often approached in an attitude of indifference. Nature, fortunately, is kind in most instances of fractured bones but cannot always be relied upon to mask mistakes or carelessness and it is not pleasant to have what may be termed a "walking exhibition" of a poor result.

The day of the "grab and pull" method is past. All of us were taught some particular grip or hold which would successfully reduce Colles fracture. But dependence upon the "pistol grip" or any other blind manipulation is unscientific and unsafe practice.

The use of the anesthetic and the X-ray are to fractures, what asepsis is to open surgery, and the physician who fails to make it a rigid rule to insist upon their use is inviting trouble. We still find in our latest textbooks on fractures such statements as "Occasionally an anesthetic must be given," or, "there should be no necessity of

waiting for an X-ray before reduction." In fact much of the material of our present day books on fractures may be found in texts as far back as 1870.

With this bit of criticism before us let us turn our attention to a few suggestions that will aid in securing more accurate results in wrist joint cases.

The first essential is to have an intelligent working knowledge of the case at hand. In spite of what Cotton and other authorities say, a preoperative diagnosis is not complete without an X-ray. There are two reasons why no attempt should be made to reduce the fracture until an X-ray is made. One is that it is the only means of gaining definite information as to structural damage and the other is that there will be little difficulty in persuading the patient to go to the X-ray while he still has pain and deformity. Then, too, when the fracture is reduced before X-ray is taken there is always the temptation to both doctor and patient to leave good enough alone. This policy is apt to prove disastrous in time.

There are about eight or ten varieties of fracture of the lower end of the radius. According to Salmond and Knox, *Lancet*, Nov. 2, 1912, they occur according to frequency as follows: Transverse, 67 per cent. T shape, 16 per cent. Fracture from the center of the lower end across the styloid process 8 per cent. V shape, 3 per cent. Styloid, 3 per cent. Oblique, 1 per cent. Longitudinal, 1 per cent. Inferior radiolunar articulation, 1 per cent.

When fracture of the radius is not found careful examination of the radiograph should be made for other injury. Fracture of the carpal scaphoid is next in frequency to Colles fracture. Dislocation of the semilunar bone is the next. Either of these or a combination of the two may simulate Colles fracture and the X-ray is the only accurate means of differentiation. Failure to diagnose these injuries means certain, permanent disability, of severe type.

When none of these injuries are found it is necessary to exclude the following injuries before a diagnosis of sprain is made: 1. Fracture of the trapezium. 2. Fracture of the first metacarpal. 3. Fracture of the os magnum. 4. Fracture of the semilunar. 5. Fracture or dislocation of the pisiform. 6. Fracture of the unciform.

*Read before the Section on Surgery and Gynecology, Annual Meeting, Oklahoma State Medical Association, Tulsa, May 12, 13, 14, 1925.

The X-ray technic and intelligent interpretation of the plates are also important factors. The surgeon responsible for the case should know enough about X-ray technic and interpretation of the negative that he will not have to depend upon someone else for his information. First, he should know the different positions in which parts may be radiographed in order to show extent of injury. Second, he should be able to interpret the multiple overlapping bone shadows in each position. Third, he should be acquainted with the common errors of technic and false shadows of a defective film.

Possibility of error will more often be avoided if the normal wrist is radiographed in the same positions as the injured member. A lateral view with the



FIG. 1. DISLOCATION OF SEMILUNAR BONE FORWARD AS INDICATED BY ARROW.

ulna next to the plate and antero-posterior view with palm down are of course necessary in every case. I wish to emphasize the importance of having the wrist exactly perpendicular with the plate and the X-ray tube centered squarely over the wrist when the lateral view is made. An oblique position will give a false impression of displacement.

There are two positions frequently used by the writer which are very valuable in determining injuries to the carpal bones in that they lessen the confusion of overlapping shadows. One, pronation oblique (semipronation) in which the lateral plane of the wrist forms an angle of 45 degrees between the plate and the palmar surface, gives a clear outline of the trapezium, trapezoid, base of the first metacarpal and radial styloid. It also gives an oblique view of the scaphoid which is essential in questionable fracture of this bone. The other position is that of supination oblique (semi-supination) in which the lateral plane of the wrist forms an angle of forty-five degrees between plate and

dorsal surface, clearly reveals the head of the ulna, pisiform and the cuneiform bones.

Stereoscopic views are also of considerable value in the diagnosis of slight fracture or displacements of these bones.

TREATMENT

In reducing a Colles fracture it matters little what technic is used. The important feature is to be certain that it is completely reduced. Here again one must insist upon the use of the X-ray. Certainly in lieu of present day facilities one cannot claim to be scientifically accurate without taking into consideration the actual bone shadows. In fact the X-ray should be used before reduction, during reduction and after reduction. Routine technic in the writer's practice is as follows: After preliminary study of the clinical and X-ray manifestations, the patient is anesthetized upon the X-ray table. When the reduction is thought to be complete it may be viewed by the fluoroscope and if satisfactory, splints are applied while fragments are held in place. Lateral and antero-posterior X-ray views are again made after splints are applied for the purpose of permanent record. The patient is then informed that the

arm must be examined again in twenty-four hours whether it feels all right or not.

It is believed that reduction often fails because the hand is simply pulled upon without any definite effort being made to manipulate the lower fragment. The method of reducing the fragments as employed routinely by the writer is as follows: The fragments are grasped by the thumbs and fingers of each hand so that the fracture line lies directly between tips of thumbs which are placed lengthwise and opposing each other on the dorsum of the radius. If the surgeon is right handed he will stand in a position to use his right thumb on the lower fragment. If left handed, it will be the opposite. The first movement is to break up the impaction and to increase the deformity by dorsiflexing the lower fragment. When it is brought as far backward as possible, place thumb of upper hand on nail of the lower thumb and make as much traction as possible with both thumbs. Then while traction is continued, force the lower fragment downward and

forward into position. Lateral displacement will usually be cared for at the same time if the downward movement is toward ulnar flexion. If the X-ray does not show satisfactory reduction, the same motion can be repeated. Occasionally the lower fragment will be found to be unusually movable and easily forced too far forward. While such position must be carefully guarded against, it leaves much less apparent deformity than slight backward rotation, or displacement. Exaggeration of

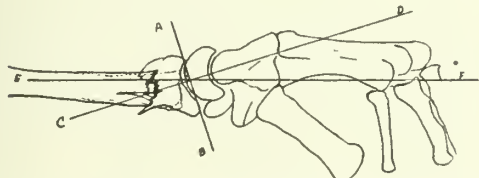


FIG. 2. COLLES FRACTURE BEFORE REDUCTION. IT IS VERY IMPORTANT TO CORRECT THE DEFORMITY OF BACKWARD ROTATION AS REPRESENTED BY THE LINE C-D.

the deformity while making traction is the secret of success in bringing down the lower fragment. Straight traction on the hand without this is usually futile.

Now what may we call satisfactory reduction? Certainly we should not be satisfied until the X-ray shows normal lines of contour not only in respect to overriding of fragments but particularly in respect

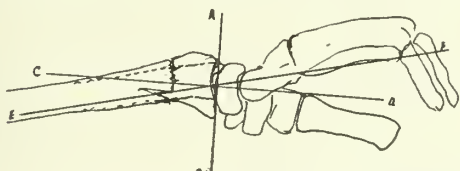


FIG. 3. COLLES FRACTURE WITH COMPLETE REDUCTION. NOTE THE LINE C-D AS COMPARED WITH FIG. 2.

to rotation of the lower fragment, because anything other than perfect reduction is bound to leave discernible deformity. What may appear to be complete reduction, may still show upon close inspection of the lateral view, that the distal fragment is not fully rotated forward and downward.

The X-ray of the normal radius will serve as a guide. It should be observed that in the lateral view of the normal radius the articular surface seems to face slightly downward towards the thumb. In Colles fracture it rotates upward so that it more nearly faces the knuckle. Correction of this rotation is the most important part of reduction.

Dorsal and ventral plaster splints lined with sheet wadding or a thin layer of cotton, are used routinely. They are made of about 12 laps of three-inch plaster bandage, the length of the forearm, from elbow to knuckles, and moulded to the arm while the wrist is held in the desired position. The knuckles and thumbs should not be immobilized. Flexion of the wrist position as taught by Cotton and others may be of some assistance in maintaining alinement but it is a dangerous position in which to leave the wrist unless one has control of the patient, because stiffness in this position is very difficult to overcome. Slight dorsiflexion is much safer and the fragments are not apt to become displaced if they have been completely reduced and held in place while the plaster splints are moulded to the arm.

Adhesive plaster should not be used around the arm on first dressing. A gauze roller bandage rolled around the wet splints is all that is necessary. So much has been said about the disastrous results of tight bandages that it is not necessary to repeat here. When the patient reports at the end of the first twenty-four hours and complains of pain, there is something wrong: look for it! Make certain the cause is removed even if the patient must be anesthetized and the fragments replaced again. It has been observed that in nearly every case of stiffness and permanent disability there is history of undue swelling and pain.

It can usually be determined within ten days whether or not stiffness is likely to complicate matters. If reduction is complete and satisfactory there is nothing left to do except to institute early passive and active motion by removing the splints daily in the office. It should not be left up to the patient.

In fracture of the carpal scaphoid, bony union is rarely obtained. It is the feeling of the writer that this is because the diagnosis is seldom made early enough to secure immediate immobilization. Another error is the common practice of relying upon adhesive plaster strapping in what is thought to be only a sprain of the wrist. Ten days or two weeks of immobilization is much safer practice and is the best treatment even if the case is only that of simple sprain. Complete immobilization of the wrist may be tried even in neglected cases of fracture of the scaphoid. If pain

and tenderness persist then removal of the proximal fragment or perhaps the whole scaphoid is indicated. This is best accomplished through a posterior incision.

Where the carpal semilunar is dislocated it can usually be replaced by closed manipulation within the first few days after the accident. Normal function is established within four or five weeks when completely reduced. At the end of three weeks it is almost impossible to replace it even by open operation, because of firm adhesion to the anterior surface of radius, and contraction of ligaments about its former berth. It can be replaced by dorsal incision but removal is better accomplished by anterior incision made along the ulnar border of the palmaris longus.

Where the fracture of the scaphoid and dislocation of the semilunar occur together the best treatment is removal of the semilunar and proximal fragment of scaphoid, unless they can be completely reduced and immobilized within two or three days after the accident. The anterior incision along the ulnar border of the palmaris longus is preferable.

A variable amount of disability is the rule after removal of the carpal bones. However, the gain in function and relief of pain are usually sufficient to justify the operation.

DISCUSSION: DAN GRAY, M.D., GUTHRIE.

It is very plain to see that Dr. McBride is making no attempt to exploit anything new or startling. During the past several years it has been our privilege to see this subject handled from one angle or another by the same author in more than one medical publication.

The importance of this subject is unquestioned. The merit of this paper is apparent. None can appreciate its importance more than this Surgical Section. However, its message would perform a larger service if presented to the men of the non-surgical sections.

In the gentlest and most delicate manner, Dr. McBride infers that, out in the field, Colles' fractures are not receiving the skilful care that the best surgical practice affords. In the interest of the patient the best of care is none too good; and there is no good reason why an unskilful physician should subject the patient to the risk of uncertain results simply because he hap-

pened to be the first doctor to arrive on the scene of accident.

The procedure for dealing with Colles' fracture as described is distinctly good. It should not be inferred—and it is not so inferred by the essayist, that this procedure will always apply to the average "Ford Kick" fracture of the wrist. Few "Ford Kick" fractures assume the Colles' type, nor is the injury to the soft parts the same.

I believe the best radiograms can be taken by placing both wrists close side by side in the A.P., then Lateral positions, the central ray falling between them from a 36 inch distance. This gives the minimum of distortion and reduces the chance of overlooking a displaced carpal.

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RECTAL ANALGESIA COMBINED WITH ETHYLENE OXYGEN IN OBSTETRICS

CHARLES E. WHITE, M.D.
MUSKOGEE

The use of rectal analgesia as carried out by the Gwathmey technic is gaining rapidly in favor and has filled a long demand for some method to ameliorate pain in child birth. While this method does relieve the pain to a great extent in all cases and completely in a few, there are a number of patients during the end of the second stage of labor who do not obtain the relief they expect and which is often promised them.

To overcome the pain in these cases, I have recently been employing ethylene oxygen with rectal analgesia and the results have been very gratifying. I find the analgesia obtained much more satisfactory than that obtained by delivery under ethylene oxygen or rectal analgesia alone. In a small series of cases, my observation has been that analgesia is quickly obtained and easily maintained at the desired level, a condition which is much harder to secure with other anesthetics. There is no slowing of labor as we have with ether or chloroform. However, prolongation of labor may easily occur with the addition of ethylene oxygen to the rectal analgesia but, this is not likely to occur if care is used in administration.

The administration of ether for rectal analgesia is carried out as outlined in the Gwathmey technic with the exception that the second hypodermic of morphine and magnesium sulphate is not given nor is the magnesium sulphate alone repeated. Labor is allowed to progress following the rectal analgesia until the patient complains of pain then ethylene oxygen is administered. It is best to instruct the patient before administering the ether analgesia, that, when the ethylene is given, they are to take a long, deep breath, exhale; another deep breath, exhale, and to hold the third breath, bearing down at the same time. Impressing this on the patient makes it easier for them to carry out the same instructions while in a semiconscious state.

A mixture of twenty per cent oxygen with eighty per cent ethylene is usually sufficient to reinforce the rectal analgesia; occasionally fifteen per cent oxygen and eighty-five per cent ethylene is required, the variation in mixture depending on the analgesia necessary. However, as high a percentage of oxygen is used as will give satisfactory results. Some patients move about the table and carry on incoherent conversations if too strong a mixture of ethylene is given. They are usually easily reassured by talking to them.

The expulsion of the presenting part is controlled by continuing the administration of ethylene. A change in mixture of the gases is seldom required. The degree of analgesia or anesthesia is readily secured by the continuous administration of the ethylene. Complete relaxation of the perineum is obtained and this results in fewer episiotomies and lacerations. The readiness of anesthetizing a patient is a decided advantage if it is necessary for any operative procedure.

Two of my cases complained of some pain. They had received their rectal analgesia four hours previous to the administration of ethylene. I find it best to repeat the rectal analgesia after four hours have elapsed if the patient is not ready for delivery, as is done when the rectal analgesia is used alone.

In using the rectal analgesia combined with oxygen, there has been no prolongation of labor. The patients rest and often sleep between pains, but the interval between pains is not delayed if the gases are administered properly. Respiration begins in the baby as quickly as with any new-

born. Their color is good and cyanosis has not occurred in any of my cases.

After delivery, the patient is usually awake, remembering very little, if anything, about her labor. Occasionally, patients with quick labors remain under the rectal analgesia for a short period, but not from the effect of ethylene.

In the operative field of obstetrics my experience, with this method, has been limited. I have had one podalic version and two low forcep deliveries. In each case the patient was given a mixture of twenty per cent ethylene and eighty per cent oxygen and complete relaxation secured.

It is not necessary to have a trained anethetist to administer ethylene oxygen by the method given above, provided, the obstetrician understands the apparatus used, and it is so constructed that the percentage of the gases given will remain constant. However, great care must be exercised to prevent the possibility of an explosion. This danger must be impressed on all who are in contact with ethylene gases.

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THE CORRELATION OF SURGERY AND RADIOTHERAPY*

M. M. ROLAND, M.D.
OKLAHOMA CITY

At the time of the construction of this great republic, the mottos: "In unity there is strength", and "Together we stand, divided we fall", were no more applicable than they now are to the different branches of medicine, surgery and dentistry.

Since the inception of aseptic surgery, no science has made a more rapid and substantial progress. Radiotherapy has enjoyed an equal development to that of surgery within the last two decades.

In occasional instances the surgeon has felt that the radiotherapist infringed upon, or tried to infringe upon, his field of practice. In other instances the radiotherapist has felt that the surgeon attempted to do by surgical means, that which should have been accomplished by radiotherapy.

*Read before the Section on Genito-Urinary, Dermatology and Radiology, Annual Meeting, Oklahoma State Medical Association, Tulsa, May 12, 13, 14, 1925.

In reality there is no more reason for rivalry or jealousy between surgeons and radiotherapists than there is between the oculist and orthopedist. Every case is either surgical or not; and if not, it should be treated by radiotherapy or a combination of surgery and radiotherapy.

In the treatment of deep seated malignancy is found the field of the greatest difference of opinion. The statistics of neither method of treatment, surgery or radiotherapy, are so good that their adherents have cause to boast.

It is the border line cases that offer the adherents to the two methods of treatment an opportunity for revenge. The radiotherapist may see a case, which in his judgment is too far advanced for surgical treatment, and in which the patient may be a little averse to surgery, and easily persuaded against surgical treatment and begins X-ray and radium treatments. All will be well if the case responds well to the treatment, which they frequently do for the first few weeks or months. In the great majority of cases, after the period of improvement, will come the period of reverse. At this time the patient may apply to the surgeon for relief, and the surgeon has his chance to deride radiotherapy if he is inclined to do so. He will naturally wonder if the case was not a surgical one at the time X-ray and radium treatment was started, and if he is not careful and thoughtful he may intimate to the patient that such was the case.

On the other hand a case might be operated and the radiotherapist consulted neither before nor after the operation. In a few months evidence of metastasis or recurrence may show up. The patient then turns to the radiotherapist who is also prone to express his astonishment that the surgeon would operate a case so far advanced, and astounded that he did not advise radiotherapy before or after operation.

In the above illustration both the surgeon and the radiotherapist are in error, neither one knowing the result would have been better had the method of treatment been reversed in each case.

The point that I am trying to make is that we should always be careful about the criticisms we make of others' efforts and judgment. The value of surgery is so well proven that it does not behoove anyone to attack its merits. Even in malignancy it cannot be dispensed with. In fact,

many of the leading surgeons would be delighted to give it over to any better method.

Radiotherapy has proven its worth in the treatment of malignancy and it is not becoming of a surgeon to minimize it. In fact, the fair-minded surgeons do not, and they accept it as an aid whenever advisable.

We should remember that the strongest characteristics of malignancy are metastasis and necrosis; and it is much better, when we see a case that has been treated either by surgery or radiotherapy, and metastasis has taken place, to explain to the sufferer that it has taken place in spite of treatment, instead of because of it. Every day we see someone who has been advised not be treated by surgery because "the knife scatters" the malignancy; and just as often the same criticism of X-ray and radium. These untrue criticisms often start from surgeons or radiotherapists and always react to their detriment as well as to the detriment of the ethical profession.

Good results depend more upon an early diagnosis and early, thorough treatment than upon the method of treatment.

RESEARCH RESULTS

Recent research in the field of medicinal chemistry, coupled with scientific physiological and clinical investigation is effecting profound changes in the practice of medicine.

Discoveries have already been announced which are changing the methods of treating diabetes, high blood pressure, and syphilis. So promising is the research work now being carried on in universities, and by large pharmaceutical manufacturers, that further important discoveries may even be made in the field of cancer and tuberculosis.

During the past year, announcement of the discovery of several new and important medicinal chemicals has been made by the Research Department of the Abbott Laboratories, North Chicago, Ill. Among these discoveries are Butesin Picrate, a new chemical body, containing both anesthetic and antiseptic properties.

Other important research results from the Abbott Laboratories are Butyn and Benzyl Fumarate, both of which are fully described in "New and Non-official Remedies."

During the past ten years the following important Council-Passed medicinal chemicals have been manufactured by, and added to the list of the Abbott Laboratories: Anethesin, Acriflavine, Barbitol, Chlorazene, Dichloramine-T, Cinchopen, Neocinchopen, Neutral Acriflavine, and Procaine.

The notable additions to the list of American made, medicinal chemicals promise much for the future cordial relations between scientific, manufacturing chemistry and progressive medical practice.

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EDITORIAL

OKLAHOMA'S CRIPPLED CHILDREN

Last fall, at Oklahoma City, there was
organized a branch of a National organi-
zation, known as the Oklahoma Society
for the Care of Crippled Children. The or-
ganization is fostered by a very represen-
tative body of citizens, the financing for
the preliminary work made possible by a
liberal donation from Mr. Lew Wentz, of
Ponca City. The first object of the work
is to make a survey of the cripples of the
State. This is done by representatives of
the Society, who visit the various counties,

make arrangements for a clinic, arrange
dates, etc. Clinics are held by representa-
tive men of known surgical ability, who
only make examinations and follow them
with the recommendations they deem fit-
ting to the case. So far the work, only
just started, has met with fair success.
Many cases have been found wherein re-
medial measures will vastly benefit, possi-
bly entirely cure the unfortunate. It is re-
grettable that many are found who can
never be benefitted by any treatment.

The medical profession in every county
so visited should lend its cooperation to
the utmost. The cases as a rule cannot be
successfully treated by the general prac-
titioner, at least they have not been. The
child nor its parents, often are unable to
pay anything for the necessary care look-
ing to betterment or cure, in fact it is
work stimulated only by zeal and self sac-
rifice upon the part of the surgeons hold-
ing the clinics. Timely efforts applied at
the proper stage may save the child a life
of helplessness, eventually make him a self
supporting independent citizen. Certainly
this work can have no criticism levelled at
it. We should give it our whole support.

—0—

ON WORKMEN'S COMPENSATION

The following letter is reproduced for
the reason that there has been for a long
time a general muttering of dissatisfaction
over the state anent the practices noted.
The complaints come from many men of
responsibility, whose statements and opin-
ions cannot be ignored, or dismissed on the
theory that the complaint has mere per-
sonal grievance as stimulus.

Dr. Claude Thompson, Secretary,
Oklahoma State Medical Association,
Muskogee, Okla.

Dear Dr. Thompson:-

At several state medical meetings, the rela-
tion of the doctor to workmen's compensation
insurance has been discussed but nothing definite
has resulted.

Claim departments are operated by laymen,
oftentimes by lawyers. These agents often stamp
a doctor's bill "payment refused", or deliberately
mail him a check for less money than the total
amount of his bill. They often disregard the prin-
ciples of ethics with which medical men govern
their professional actions. For instance, they or-
der the patient to a doctor of their own choice
without consulting the wishes of the patient and
without the consent or knowledge of his attend-
ing physician. They frequently refuse treatment
to the patient unless he accepts the services of an
appointee of the company instead of his family

physician or a specialist of the family physician's choice.

Just what the legal rights are in the respect to such practices of the insurance companies is for the State Industrial Commission and Supreme Court to decide.

Just how long the medical profession will tolerate the flagrant disregard of their ethical practices and moral rights, depends upon how soon the profession as a whole insists that their time honored customs and principles of professional ethics be respected.

No one can blame the companies for endeavoring to lessen their losses. It is a matter of business. At the same time, admitting that the insurance companies pay a great amount of money to doctors in Oklahoma each year, the doctor does not consider his practice a business proposition. It is a profession first, last and always. Time tried principles govern his relation to his patient whether the patient's bill is paid by himself or his employer and the doctor should force the insurance companies to realize and respect these principles.

These problems are so vital to the profession of this state that I believe that our State Medical Association should have a standing committee on Industrial Medicine and Surgery. It should be the duty of this committee to study all angles of the situation and bring before the state organization a report each year covering difficulties, disputes and proposals for improvement.

Yours very truly,

Earl D. McBride,

Oklahoma City.

Editorial Notes—Personal and General

DR. H. G. CAMPBELL, formerly of Cromwell, has moved to Seminole.

DR. JOSEPH DORROUGH, formerly at Indianola, has moved to Haileyville.

DR. E. MARGO, formerly of Covington, has moved from there and is now with the E. D. McBride Clinic at Oklahoma City.

DR. E. R. BARKER, Healdton, who was operated upon at the von Keller Hospital at Ardmore recently, has recovered and returned home.

MUSKOGEE CITIZENS will vote, March 16th upon an offer of \$100,000 from the Veterans Bureau for the City Hospital building, which is adjacent to the Veteran's Hospital.

McINTOSH COUNTY MEDICAL SOCIETY met February 23rd, with a program; a paper on "Metabolism" by Dr. J. H. McCulloch, Checotah, followed by a clinic with report of cases.

DR. L. S. MUNSELL, Beaver, has passed through a long and severe spell of sickness at Dallas, Texas; he expects to return home the latter part of March. Dr. Munsell is 85 years old.

DR. L. E. EMANUEL, Chickasha, returned recently from a two weeks' stay in New York and Baltimore working at the Bellevue Hospital and at Johns Hopkins.

COLONEL HUGH SCOTT, Muskogee, Medical Officer in Charge, U. S. Veteran's Hospital, was called to Washington early in March for a conference upon Bureau work.

OSAGE COUNTY MEDICAL SOCIETY met recently at Pawhuska, with a program the chief features of which were address on "Causes and Results of Endarteritis", by Dr. C. C. Conover, Kansas City, and "Prostatectomy", by Dr. Francis McCallum, Kansas City.

DR. A. Y. EASTERWOOD, Ardmore, while attending a sick prisoner at the jail, was attacked by three prisoners and suffered a broken bone in his hand while defending his medical bag from theft by the prisoners who attempted to get a quantity of morphine from the bag.

DR. C. O. VON WEDEL, Oklahoma City, delivered an address on "Cosmetic Surgery" to members of the Muskogee County Medical Society and Staff of U. S. Veteran's Hospital, Muskogee, recently. His remarks were illustrated with lantern slides.

KAY COUNTY MEDICAL SOCIETY has elected new officers for 1926: Dr. C. J. Barker, Kaw City, president; Dr. G. L. Berry, Blackwell, vice-president; Dr. M. S. White, Blackwell, secretary-treasurer, and Drs. C. L. Blanks, Ponca City, William Leslie, Blackwell, and A. S. Nuckels, Ponca City, censors.

LOGAN COUNTY MEDICAL SOCIETY in meeting January 26th, elected the following to office for 1926: Dr. C. S. Petty, president; Dr. W. H. Larkin, vice-president; Dr. E. O. Barker, secretary-treasurer; Dr. C. B. Hill, delegate, with Dr. A. A. West, alternate, and Dr. F. E. Trigg, censor; all are of Guthrie.

CRIPPLED CHILDREN of Wagoner and Cherokee Counties had their days on February 26 and 27, when a clinic was held under the auspices of the Oklahoma Society for the Care of Crippled Children at Wagoner and Tahlequah. The clinics were conducted by Drs. S. R. Cunningham, Oklahoma City and Pat Fite, Muskogee. After examination the recommendations best fitting the cases were made. The work was greatly aided by public spirited women who are lending their cooperation.

DR. PAUL P. OLIVER, who was found guilty of unprofessional conduct by the State Board of Medical Examiners, and after a hearing had his license revoked, made application to the Pottawatomie Superior Court for a writ of certiorari, which was dismissed by that court, applied to the State Supreme Court for a review, which was rendered to the effect that the Supreme Court upheld the action of the inferior tribunal.

DR. FOWLER BORDER, Mangum, won a verdict for \$25,000,000 in the District Court of Beckham County recently. This is the second large judgment given Dr. Border in the case, the first being remanded for a new trial in 1919, arose over a conspiracy engineered to injure Dr. Border when as Mayor of Mangum, he incurred the enmity of certain people seeking control of the electric and power supply at Mangum. The company in question lost the Mangum franchise, Mangum finally building and operating its own plant.

DR. CHAS. R. HUME, and wife, Anadarko, who are now visiting in Burbanks, California, expect to spend the remainder of the winter in Los Angeles; they are greatly enjoying the trip.

DR. E. BRENT MITCHELL, Lawton, recently went to Indiana, where he accompanied the remains of the late Mrs. Mitchell, who was buried there.

STEPHENS COUNTY MEDICAL SOCIETY met February 25th at Duncan and heard a paper on "Pre-Natal Care of Obstetric Cases" and a clinic.

DR. C. P. MITCHELL, Chickasha, returned recently from a three weeks' course in New York, taking some special eye work.

DR. P. P. NESBITT, Muskogee, has located in Tulsa. His new office is on the 8th floor, Palace Building.

DR. L. H. CARLETON, formerly of Tulsa, has accepted an appointment to the Henry Ford Hospital, Detroit.

PAYNE COUNTY MEDICAL SOCIETY met at Ripley on the evening of March 10th. One unit of the Society, that from Cushing, was present in a body, as is usual with that enthusiastic outfit. The program, which was to come from Oklahoma City, failed to appear. Much good was accomplished, however. Various and interesting case reports were discussed for two hours.

DR. J. E. SMITH, formerly of Tipton, has moved to Denton, Texas.

CUSTER COUNTY MEDICAL SOCIETY met March 2 at the Western Oklahoma State Tuberculosis Sanatorium at Clinton with the following program: "The Tubercular Lesion", by Professor L. A. Turley, Oklahoma University; "Common Fungus Infection", with lantern slides, by Dr. E. S. Lain, Oklahoma City, and a paper by Dr.

McLain Rogers, Clinton, followed by an inspection of the Sanatorium. The session was closed by a banquet in the evening at which Dr. A. S. Risser, Blackwell, president-elect of the State Association, was the principal speaker.

SPECIAL GUEST DAY MEETING.

Garfield County Medical Society extends an invitation to all the doctors of Oklahoma to attend their Special Guest Day Meeting at Enid, Oklahoma, on March 18, 1926. We have the following program arranged:

1. Address of Welcome
Dr. A. E. Wilkins, Covington, Okla.
Pres. Garfield County Med. Soc.
2. Trifacial Neuralgia
Dr. W. T. Coughlin, St. Louis, Mo.
3. Bronchoscopy
Dr. E. M. Seydell, Wichita, Kans.
4. Medical Education
Dr. A. S. Risser, Blackwell, Okla.
5. Ulcerative Colitis
Dr. H. G. Walcott, Dallas, Texas.
6. Diagnosis of Diseases of the Ductless Glands
Dr. J. L. Tierney, St. Louis, Mo.
7. Title of Paper to be announced later.....
Dr. Harry W. Horn, Wichita, Kan.
8. Orthopedic Treatment of Infantile Paralysis
Dr. Earl McBride, Okla. City, Okla.
9. Diagnosis and Treatment of Anemias.....
Dr. W. W. Duke, Kansas City, Mo.

This meeting is to continue throughout the day with clinics in the morning, papers in the afternoon, banquet in the evening with moving pictures and lantern slide demonstrations after the banquet.

We feel that this is going to be one of the best programs to be given in this section of the state this year, and know you will not want to miss it. We have procured the best men available and know that they will give us something very much worth while. The Garfield County Medical Society will be host at the banquet in the evening and you may rest assured that they will give you a real meal.

Don't forget the date, Thursday, March 18th, 1926, and plan to be here from the first session to the last.

field. Later on, he may endow a home for his aged and destitute colleagues of Payne County.

DR. P. M. RICHARDSON, Cushing, has leased new office quarters, being now occupied in one of the best equipped offices in Payne County.

DR. C. F. HOUSE, formerly of Hastings, has moved to Walters.

DR. WILLIAM BENNETT BIZZELL, installed as President of Oklahoma University at Norman, February 5th, delivered a masterly inaugural address to an audience of hundreds of Oklahomans and visitors on that date. Of interest to the medical profession was Dr. Bizzell's recommendation that there be added to the University, a school of Dentistry and Public Health. It was his opinion that Public Health work was not being given the attention its prominence deserved.

DR. WANN LANGSTON, Dr. S. E. Kernodle, Dr. Lea A. Riely, Dr. C. J. Fishman, Dr. A. W. White, Dr. L. J. Moorman and Dr. A. B. Chase, Oklahoma City, attended the recent session of the American College of Physicians in Detroit, Michigan, and at the University of Michigan.

DR. A. L. GUTHRIE, Oklahoma City, read a paper at medical meetings at Hartshorne and McAlester last week.

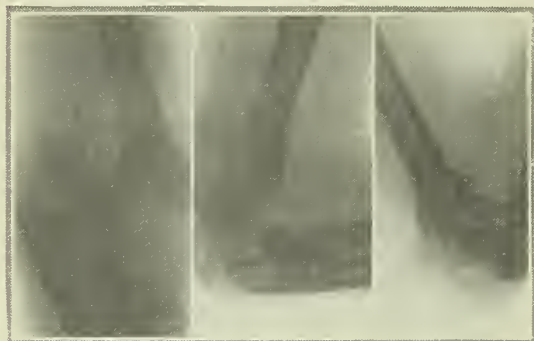
DR. R. W. HOLBROOK, Perkins, has an interest in a new oil well in the Mehan area of the Cushing

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M. D.
717 North Robinson St., Oklahoma City

CLINICAL CASE REPORT. Supracondylar Fracture of the Elbow.

Fell from teter-totter at school with elbow back of her. Examination shows backward and inward displacement of the elbow. There is crepitus and extreme pain on motion. X-ray shows fracture transversely through the lower end of the humerus at a point immediately above condyles. The lower fragment which carries with it the radius and ulna is displaced backward, upward and inward.



1 2 3
FIG. 1. SUPRA-CONDYLAR FRACTURE OF THE ELBOW. NOTE MARKED LATERAL, POSTERIOR AND UPWARD DISPLACEMENT OF THE CONDYLES.

FIG. 2. INCOMPLETE REDUCTION. IF LEFT WITH THE LOWER END OF THE UPPER FRAGMENT PROTRUDING FORWARD IN THIS MANNER, THERE WILL BE LIMITATION OF FLEXION.

FIG. 3. COMPLETE REDUCTION. ARM PUT UP IN ACUTE FLEXION.

TREATMENT:

Fracture was reduced under fluoroscope and put up in acute flexion in a light circular cast which was split down the side. At the end of 3 weeks motion of elbow was started. It was 3 months before full motion returned.

DISCUSSION:

This particular fracture is very dangerous to handle. Interference with circulation causes such serious consequences as ischemic paralysis. Failure to properly reduce permanent limitation of motion in the elbow and causes lateral angulation (gunstock deformity) which is very embarrassing.

To insure complete reduction, the case should be taken immediately to the X-ray. Anesthetic is absolutely necessary. The fluoroscope may be used or plates made when reduction seems satisfactory. To reduce the fracture, the arm is first hyperextended at the elbow and traction applied. Lateral deviation is corrected. The thumb is then placed just above the olecranon process, and, acting as a lever, the lower fragment is pushed forward onto the shaft of the humerus. While pressure is continued the elbow is slowly flexed to an acute angle. One should not be satisfied until the lower fragment is brought completely forward in line with the anterior border of the humerus as seen in the lateral X-ray view. Pro-

truding forward of the lower end of upper fragment causes interference with circulation and bone block in acute flexion.

The arm may be strapped in acute flexion with adhesive or plaster applied and split to allow for swelling.

PREDISPOSING CAUSES OF PAINFUL FEET

A realization of the relative factors in etiology is of first importance in any human illness. In foot symptoms, it is especially so as the cause can often be traced directly to its source, and by its elimination, local treatment becomes simple and relief of symptoms astonishingly prompt.

The indirect causes of foot symptoms must be detected through careful inquiry into the history of the general health and thorough physical examination. The amount of reserve elasticity and power of regeneration from fatigue varies directly in proportion to the nutrition of the muscle cells so that perfect muscular balance can be maintained only through a normally functioning general system.

In other words, aching feet may be the first warning to an individual whose urine if examined would show sugar, or to one whose chest, if carefully gone over, would reveal signs of incipient tuberculosis. An attack of influenza or other acute illness is frequently found to precede symptoms.

Flatness of the arch in a foot therefore does not indicate the amount of pain and disability. If there is deformity or improper posture present, strain is of course more likely to occur when burdens are thrust upon the feet, but if the general system is functioning properly and has accounted for the deformity by compensating for its disadvantages, no symptoms can occur. When pain does arise, therefore, it is just as important to seek the de-compensating factor as it is to apply local support.

The following questions should be asked when obtaining a history in a case of painful feet.

1. How old are you?
2. What is your occupation?
3. Are you overworked?
4. Are you on your feet a great deal?
5. What diseases did you have in childhood?
6. Did you have scarlet fever?
7. Did you have typhoid fever in childhood?
8. Do you have tonsillitis?
9. Are you married?
10. Any still births or miscarriages?
11. (Men) When did you have gonorrhea? Did the testicles swell?
12. Have you been increasing or losing in weight in the past year?
13. How many hours do you sleep?
14. Do you cough?
15. Do you have night sweats?
16. Do you get nervous and excited easily?
17. How are your eyes?
18. Do you have headache often?
19. Are you habitually constipated?
20. Have you an unusually big appetite?
21. Do you urinate frequently or in a great amount?
22. Have you had a serious spell of sickness in the past five years?
23. Have you had the "Flu"?
24. Do you get short of breath on moderate exercise?

25. Do you have pains in other joints?
26. Do your feet hurt more after standing?
27. Do your feet hurt you at night or on rising in the morning?
28. Does the pain lessen after resting?
29. Just where is the pain in your feet?
30. Does the calf of your leg ache?
31. Do your ankles swell?
32. Is your heel painful upon pressure?
33. Is the pain in the front part of your foot?
34. Is the pain in the arch of your foot?
35. Do you have backache or painful hips?
36. Have you always worn high heeled shoes?
37. Have you recently changed to low heeled shoes?
38. Do you go barefooted about the house? Or do you wear house slippers with no heels?
39. Have you injured your foot in any way recently?

SYSTEMATIC DIAGNOSIS OF BACKACHE.

Edward T. Wentworth, M.D., Rochester, N. Y.
The Jour. of Bone and Joint Surgery. January, 1926.

In this article chief consideration is given to the differential diagnosis of four types of traumatic back, namely, sacro-iliac strain, sacro-iliac subluxation, lumbo-sacral strain, fractures and dislocations in the lumbo-sacral region; to static backs, often seen in those unfit for the overstress of life; and to orthostatic backs.

The general tendency is to make a diagnosis then look for corroborative findings. This should be replaced with systematic procedure in working out a case.

The article consisting of three sections takes up first a discussion of the history in cases of backache and its bearing on diagnosis; secondly, a brief discussion of the clinical entities in low back pain, and third a list of information obtained from 750 cases of low back pain in an attempt to clarify the hitherto muddy situation in diagnosis of low back cases.

A NOVEL METHOD OF REDUCING A DISLOCATION OF THE ELBOW. A. S. GUBB, *Brit. Med. Jour.*, July 11, 1925, p. 60.

"The patient had a typical dislocation of the right elbow, the forearm being displaced forward." (?) Standing on the right side of the patient, Prof. Curtillet grasped the elbow with both hands, leaving the forearm free. Having raised the limb to an obseuse angle with the trunk, he then suddenly, taking the patient by surprise, imparted to the limb a violent flail-like movement, whereupon the displaced forearm slipped back into its place. There was considerable momentary pain. He said he had employed this method many times with invariable success.—F. G. Hodgson, M. D., Atlanta.

SEPARATION OF THE ACROMIOCLAVICULAR JOINT. By Barclay W. Moffat. *Surgery, Gynecology and Obstetrics*, July, 1925, p. 73.

Dr. Moffat does not believe in the efficacy of adhesive strapping, nor does he deem it advisable that the joint in such a condition should be stiff-

ened. He recommends open operation and stitches the joint in apposition by means of subperiosteal chromic catgut, after which a plaster spica with the arm at ninety degrees abduction is applied. Spica is removed in three weeks.

A report of eight cases is given and the author's conclusions are here quoted.

"CONCLUSIONS. 1. Strapping is mechanically inadequate to restore function of joint in all cases. 2. The operation of choice is curettage and suture of the two bones resulting in fibrous ankylosis of the joint is undesirable."—H. A. Pingree, M. D., Portland, Maine.

CLINICAL STUDY OF RHEUMATOID ARTHRITIS. A. H. Douthwaite. *Brit. Med. Jour.*, June 27, 1925, p. 1170.

Observations based upon examination of fifty patients, thirty-eight of whom were females. Gradual deterioration of health preceded the pain in every case. In twenty per cent of cases an illness probably precipitated the onset of the disease. In no case was more than one joint involved in the original attack. The small joints of the spine are often involved early in the disease. Skin is usually moist, often discolored or pigmented. Cardio-vascular system: The blood pressure was invariably low. There was marked daily variation in the pulse rate, but rapid pulse was not constant. No definite blood picture was obtained. Leucopenia and increase in lymphocytes was observed. Muscular weakness and wasting appeared constantly. Gastro-intestinal; achlorhydria or marked hypro-chlorhydria was not observed. Gastropnoxis and enteroptosis were frequently observed by radiograph. Dental and tonsillar infection was the most frequent focus of infection.

EYE, EAR, NOSE and THROAT

Edited by Jas. C. Braswell, M. D.
 726 Mayo Bldg., Tulsa

An Operation for Glaucoma. Stefansson J.: *Am. J. Ophth.*, 1925, 3 s., viii, 681.

Stefansson has apparently been able to obtain foreign-body drainage of the anterior chamber successfully and without undue reaction. A good wire loop or a gold tube is inserted into the anterior chamber subconjunctivally. A conjunctival flap is made as for a trephine, a keratome is introduced into the anterior chamber, and then a T-shaped wire or tube is inserted so that the upper part of the T lies close to the limbus. The vertical arm must be long enough to insure communication with the aqueous.

Stefansson frankly records his difficulties. He reports in detail twenty-five cases. The treatment was successful in 78 per cent, a partial failure in 13 per cent, and a complete failure in only nine per cent.

Eye Injuries and Interstitial Keratitis. Spicer, W. T. H., and Pollock, W. B. L.: *Brit. M. J.*, 1925, 373.

Spicer says that interstitial keratitis may be closely associated with an injury. The injury is often trivial and may or may not have caused a

breach of surface. Spicer obtained a history of injury in three per cent of his cases and Butler found such a history in twenty per cent.

If injury is the cause of the attack, it is impossible to give a satisfactory explanation of the appearance of interstitial keratitis in the other eye, but if injury is not the direct cause the explanation is not difficult.

The author believes that interstitial keratitis is always syphilitic, that the spirochaetes are present in the cornea and cause the disease when they reach a certain degree of maturity. When they have become mature any injury, however minor, may precipitate an attack or an attack may occur in the absence of a stimulus and in spite of anything that may be done. If the spirochaetes are not mature, injury will not precipitate an attack.

Pollock gives a brief review of the symptoms, diagnosis, and treatment of interstitial keratitis.

Phlyctenular Conjunctivitis and Keratitis: Causes and Prevention. Harman, N. B.: *Brit. M. J.*, 1925, ii, 379.

That phlyctenular lesions are the frequent cause of permanent impairment of vision is shown by the fact that of 699 pupils in the schools for blind and myopic children in London whose disability was caused by inflammation of the surfaces of the eye, 242 had suffered from phlyctenular keratitis. This condition is rare among the middle classes and common among the poorer classes. Children who are well fed on a diet containing a large amount of fat are less likely to develop it than those who are not so fed. The condition is uncommon in infants under one year of age, increases in frequency up to the fifth year, and then becomes less frequent. At the age of five years, the mouths, noses, and throats of underfed children are often the sites of infection causing irritation of the fifth nerve.

Sixty-six per cent of the lesions are found in the lower and lower outer sector of the limbus. As the majority of unbroken phlyctenules are sterile, the lesion is probably not due to microbic invasion of the ocular tissue. Histologically, the phlyctenule is a blister.

The author concludes that the disease is a manifestation of some general debility and not a specific infection of the tissues of the eye. Definite evidence of tuberculosis is found in a very small percentage of cases. Throat inflammations are more common in children with phlyctenular lesions than in those with other types of conjunctivitis. In the author's opinion the primary general condition is not tuberculosis but feebleness due to the lack of proper food and perhaps also the lack of sunlight and air.

The prevention of phlyctenular lesions is bound up with the general social betterment of the people, the clearing up of throat and mouth infections, and the establishment of open air schools for debilitated children.

A Clinical Study of Bone Conduction After the Method of Runge. Downey, J. W., Jr.: *Arch. Otolaryngol.*, 1925, ii, 260.

The author made a clinical study of bone conduction which was a repetition of the investigations of Runge. In applying the test in every day clinical work Downey has found it of distinct

value in the diagnosis of complete and partial stapodial fixation and in the differentiation of conduction and perception deafness. In the physical laboratory with definitely controlled air pressure it can be shown that bone conduction can be increased up to a certain maximum in direct proportion to the amount of pressure employed.

The Bezold theory concerning increased bone conduction has never been fully accepted; direct craniolabyrinthine transmission of sound waves based on sympathetic resonance is not impossible, and changes in the tension of intralabyrinthine structures must take place. The author believes that in differential diagnosis the estimation of hearing by bone conduction is of distinct value.

The Pulpless Tooth from a Bacteriological and Experimental Standpoint. Haden, R. L.: *J. Lab. and Clin. Med.*, 1925, x, 965.

A very high percentage of teeth which are negative in the roentgenogram harbor infection. Therefore the roentgenogram should never be depended upon to eliminate a tooth as a possible focus of systemic disease.

In the author's studies a very large percentage of the teeth which were positive in the roentgenogram did not harbor any infection or only such slight infection that it could not have been a factor in systemic disease at the time the culture was taken. In such cases, the infection has probably run its course and had become bacteria free.

The periapical tissues of a certain percentage of pulpless teeth, which are either positive or negative in the roentgenogram are sterile when they are cultured in glucose-brain broth. This does not prove that they are really sterile, since some other method of culture might reveal organisms. The findings suggest, however, that a pulpless tooth is not necessarily infected.

The bacteria concerned in chronic foci are pathogenic as they are able to produce lesions in animals when they are injected intravenously.

In certain cases, the bacteria from chronic foci demonstrate an unmistakable tendency to localize in certain parts of the body. These cases afford valuable experimental proof of a casual relationship between chronic foci and systemic disease.

UROLOGY and SYPHILOLOGY

Edited by Rex Bolend, B.S., M.D.
1010 Medical Arts Building, Oklahoma City.

Treatment of Syphilis Complicated by Aortitis or Aneurism.

I would like to add a word to the already clouded field of the management and treatment of cases of luetic aneurism and aortitis. It occurs to me that we are following more or less blindly some oft repeated statements about these conditions.

Now, if we will pause a moment and consider the histo-pathology of luetic lesions we should know that they are all alike, except for the structures involved and the extent of the lesion. We will remember that the hyperplasia and necrosis, (when there is no secondary infection) is at the expense of the new tissue, plasma cells and con-

nective tissue, and even while a lesion is present the connective tissue cells therein do not constitute a scar. On treatment they are absorbed leaving only the normal tissue.

This is fundamental in the development and absorption of luetic lesions. With these facts in mind, why should we fear to use neo-salvarsan in this type of cases? Of course I do not suggest a radically intensive treatment, it is good judgment to study well and not overtreat any luetic where there be aortitis or plain secondaries.

RELATION OF THE CLINICIAN TO THE LABORATORY.

The following remarks of Dr. Henry C. Ricks, State Bacteriologist are pertinent to all of us, and so particularly do they apply to the Urologist, that I quote him verbatim.

Laboratory reports, especially as pertaining to Wassermann, stains for Gonococcus, Bacillus Diphtheria and T. B., should be very carefully considered in the light of clinical evidence. Negative tests do not necessarily mean absence of disease, especially when methods of taking specimens are considered. In latent Syphilis where a negative Wassermann results, a provocative treatment will often bring about a positive reaction.

The clinician makes a grave mistake in giving laboratory reports to his patients, Wassermann and Gonococcus especially. He creates a dissatisfaction among the laity who understand nothing of laboratory procedure, by so doing. Patients should never be sent to a laboratory to have blood for Wassermann taken, as that breaks a line that should be kept intact. The report should always go to the clinician and be kept by him. Duplicate tests should not be run by laboratories without a request from the clinician. The report should contain conservative information with regard to specificity of the test performed. The report should be made simple so that it can be readily interpreted by the busy practitioner.

The clinician should know the ability of his laboratory staff and use only laboratories using the same procedure with regard to technique.

Insufficient Treatment of Syphilis.

It seemed for a while that the medical profession had begun to understand the value of sufficient treatment for the syphilitic but now we are again beginning to find numerous cases which have been under-treated. There are, I think, several good reasons for this state of affairs.

First, before the war we were using salvarsan almost exclusively, and, because of the technique, most of the syphilis was treated by the specialist, then neo-salvarsan came into almost universal use; the different manufacturers supplied ampules of sterile distilled water, which made the administration of the drug very easy. The natural reaction to this was, of course, for each of us to treat our own syphilitics. That made it very fine for both doctor and patient, because it meant money for the doctor, and time and convenience for the patient.

But this is only a small part of the treatment. How many busy practitioners can take time to do a urine analysis once every week?

How many can be in their office with sufficient regularity that they may see a patient three times a week?

How many have access to ample supply of different doses or make their dilution in the solution if using the ampule?

How many can keep their syringes and needles clean and free from sediment, even though sterilized?

How many can take time to work out the size doses needed for each individual case?

And, not the least of all, how many will take the time to answer all the questions and treat the patient's mental disturbances when they are in a hurry to get out to see the Smith baby who is threatened with diphtheria?

Now, these things must be problems to the busy man when all except the latter are problems to the specialist.

And the result is: the patient clears up, feels good, fails to return at the appointed time, the doctor loses contact then no more is heard of him until he appears with some of the late manifestations.

Second, another reason for insufficient treatment lies at the door of the specialist. In our effort to impress upon the medical profession the importance of thorough treatment we are often understood to mean that each and every case should have the same, rigorous, intensive courses.

Nothing could be more wrong. Every case should be studied and treated as an individual condition.

THE TREATMENT OF SYPHILIS IS NOT STANDARDIZED. The nearest to standardization is that it must be treated in cycles or courses to the point of saturation, rested, re-saturated, etc.

Too frequently a case is over-treated then some of the usual accidents become apparent, the careful observer then comes to the conclusion that his patient had better be inadequately treated than otherwise.

This may sound like a plea for all cases to be sent to the specialist—it is not, were that the case I would keep still because more and more under-treated cases are coming all the time. The point I do want to impress, is that there is a great deal more to the treatment of syphilis than the use of neosalvarsan and mercury, and that there is a growing carelessness on the part of the busy practitioner in completing the treatment.

Bismuth Treatment for Syphilis

Sufficient time has elapsed and enough has been written on the use of bismuth in the treatment of syphilis that we should have some sort of a definite idea of its relative status.

After using bismuth for two years in several hundred cases and reading most of the literature the writer has arrived at the following conclusions:

First: (a) Bismuth is superior to mercury throughout the whole field of antiluetic treatment.

(b) Bismuth in certain conditions is the equal of neosalvarsan.

(c) Bismuth can be used with safety in certain instances where either mercury or neo might be unsafe.

Second: Bismuth is relatively harmless and may be used with safety.

It has become routine with me to use it in the third course on luetics. After two previous courses the particular action of the drug is indicated because at that time one would expect the T. Palladium, if present, to be buried or localized in some gumatous formation. Bismuth does not have a high degree of toxicity, though there have been cases of bismuth poisoning it is less likely than the other heavy metals and this seems to be confined to the alimentary tract and kidneys.

Stomatitis is liable to occur, the familiar blue line, fetid breath, and swollen gums, that may readily ulcerate, gives us our greatest worry.

There are so many opinions on the amount of kidney damage it leaves one rather bewildered, however, I feel safe in saying that if there is any renal irritation it is transitory. In my own experience I have never seen a case of nephritis develop.

BACTERIOLOGY and PATHOLOGY

Edited by Wm. H. Bailey, A.B., M.D.
Wesley Hospital, Oklahoma City

THE ETIOLOGY OF CHRONIC ULCERATIVE COLITIS. Jacob A. Bargaen, M.D., and Rach H. Logan, M.D., Rochester, Minn. Archives of Internal Medicine, December 15, 1925.

A Gram positive, lancet shaped diplococcus, growing in twos and fours (has been observed with a capsule occasionally, thus morphologically resembling a pneumococcus) has been isolated in eighty per cent of these cases. The subsequent injection of cultures of these organisms into rabbits and dogs have produced an ulcerative condition of the colon. This occurred in forty-five rabbits out of 139 rabbits injected. Occasionally this organism produced empyema of the gall bladder. Cultures from this source caused an acute ulcerative colonitis in dogs.

The possibility that gall bladders might act as a focus for harboring these diplococci made it seem reasonable that other distant foci in human beings might be of importance.

The lesions in their early stages have appeared as milary abscesses. A few days later superficial ulceration of the tops of the abscesses and their confluence produce the typical granular appearance. From these lesions, a pure culture of the diplococcus has been isolated.

The authors are inclined to believe that it would seem logical that some form of immunization against this diplococcus offers hope for patients suffering from chronic ulcerative colitis.

From these studies it would seem that the hope of control in this disease lies in (1) removal of distant foci of infection, (2) immunization in some form against the causative organisms, (3) local and topical application and irrigation. (4) the empiric use of drugs, such as tincture of iodine, (5) kaolin by mouth, and a non-irritating yet general diet.

Anaphylactic Reactions Following Administration of Serums to Children Previously Immunized Against Diphtheria. Chester A. Stewart, M.D., P.H.D., Minneapolis, Jour. A. M. A., Jan. 9, 1926.

The administration of diphtheria toxin-antitoxin to render children immune to diphtheria is unquestionably a valuable procedure, although having the distinct disadvantage of sensitizing these individuals to horse serum. Subsequent administrations of serums as therapeutic and prophylactic measures undoubtedly are accompanied with the danger of anaphylactic reaction.

The author cites cases having anaphylactic reactions following the administration of prophylactic injection of antitetanic serum, scarlatinal antistreptococcal serum and injection of diphtheria antitoxin, to children who had previously had immunizing doses of diphtheria toxin-antitoxin. The reactions varied in intensity.

Therefore attention is called to danger of the occurrence of anaphylactic reactions following the administration of various antitoxins containing horse serums to children who have been sensitized to this serum through diphtheria immunization.

A method is now being perfected by means of which children may be immunized against diphtheria without the employment of serums.

Treatment of Fractures. Editorial by J. L. Yates, Surg. Gyne. and Obst., Nov., 1925.

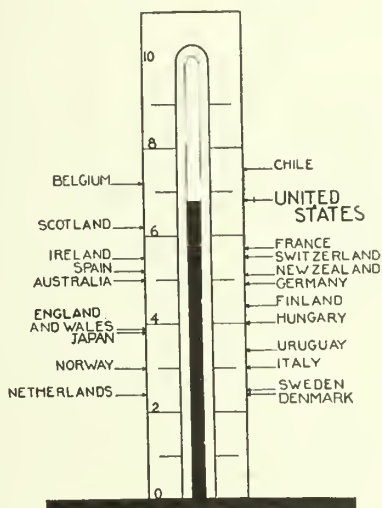
Although the subject does not indicate it, much of the article discusses the principles of the pathology and physiology of bone repair which will permit its classification in this section.

The author says, "The aim of all therapy is to expedite complete recovery of function." "It is attained when procedures are in harmony with natural processes which develop powers of resistance and defense, growth and repair". How often does fracture therapy lose sight of, or disregard this physiological truth. "Atrophy follows inactivity." "Atrophic cells are deficient in powers of growth and repair." "The capacity of atrophic bone to produce callus is restricted." Reasoning in this way he says that immobilization is contra-indicated when avoidable, especially in children. Callus matures with exercise and becomes more compact and thicker along lines of stress. The earlier callus is subjected to moderate stress the sooner it matures. Immobilization should not exceed the requirements surgical experience has found necessary to hold the fragments in approximation and this should be without avoidable restriction in local and general activities. Active motion can lead to more accurate reapposition of fragments after fracture of some of the bones in the hands and feet than can be obtained by manipulation and immobilization. The entire editorial is well summed up by the following sentences. "Reapposition, fixation and immobilization are needed in some fractures. The need has been over-estimated," "Active motion is needed in treating all fractures. The need has been underestimated."

BUREAU OF MATERNITY AND INFANCY STATE DEPARTMENT OF PUBLIC HEALTH OF OKLAHOMA

LUCILE SPIRE BLACHLY, Director

The Maternal Mortality Thermometer
(The Children's Bureau)



Deaths from Puerperal Causes per 1000 live births.

(From latest figures available, March 15, 1923)

Notice where the United States stands—6.8 per 1000. Why?

Where does Oklahoma stand?

Do we know? Why not?

How many mothers lost their lives from child birth or causes associated with child birth in your town or county in 1925? Colored? White? Indian? Under 15? Between 15 and 40? After 40?

How many of these were cared for by physicians? By midwives? Left unattended?

How many of these had careful prenatal care?

Of those who did not whose fault was it, the patient's or the physician's? Or both?

What caused their death?

Eclampsia? Hemorrhage? Septicemia? Something else?

How many of these were instrumental deliveries?

How many of these had pituitrin administered? What dosage?

What do you think of the idea of each county medical society's making a careful, unbiased, unprejudiced, survey of its own county in order to find out where the trouble lies?

Mothers are important folk. Who has ever seen one that could be spared?

The Bureau of Maternity and Infancy would be glad to have suggestions from every physician in the state relative to such a study.

What Is Good Prenatal Care

It was found in October, 1924, when the directors of the Bureaus of Maternity and Infancy and Child Hygiene of the several states met in Washington, D. C., there seemed to be no agreement among the various states and none apparently among the various communities, towns and cities within the single state as to what is meant by *good* prenatal care.

A committee selected from the various directors present met, discussed the matter and decided to ask the Children's Bureau of the U. S. to draw up standards of prenatal care. Dr. DeNormandie, Professor of Obstetrics of Harvard University was appointed chairman of this committee. He, together with the Chief of the Children's Bureau selected the following as members of the Committee:

Dr. Fred L. Adair, associate professor of obstetrics and gynecology at the University of Minnesota Medical School; Dr. Rudolph W. Holmes, associate professor of obstetrics and gynecology at the Rush Medical College, University of Chicago; Dr. Ralph W. Lobenstine, chairman of the medical advisory board of the Maternity Center Association of the City of New York; Dr. Frank W. Lynch, professor of obstetrics and gynecology, University of California Medical School; Dr. Florence L. McKay, director of the division of maternity, infancy, and child hygiene, Department of Health of the State of New York; Dr. James R. McCord, professor of obstetrics and clinical gynecology, School of Medicine, Emory University, Atlanta, Ga.; Dr. C. Jeff Miller, professor of obstetrics and clinical gynecology, Tulane University of Louisiana School of Medicine; Dr. George Clark Mosher, chairman of committee on maternal welfare, American Association of Obstetricians and Gynecologists; Dr. Otto H. Schwartz, associate professor of obstetrics, Washing-

ton University Medical School, St. Louis, Mo.; Dr. Annie S. Veech, director of the Bureau of maternal and child health, State Board of Health of Kentucky.

As a result the Children's Bureau now has available through the Bureau of Maternity and Infancy of the several states Bureau Publication No. 153 "Standards of Prenatal Care", which your Bureau is planning to send you in a few weeks together with a second pamphlet "Standards for Child Health Examinations".

L. S. B.

THE GROWING IMPORTANCE OF GELATINE IN INFANT FEEDING

Some time ago, Dr. Joseph Leidy, of Philadelphia said: "The combination of gelatine and milk in infant feeding was long used by my father and the late Dr. W. Pepper. I have continued to use it during the past thirty years, and am of the opinion that it gives results when many other combinations fail."

In recent months the growing interest of the medical profession in gelatine has been noticeable. Doctors are reporting gratifying successes in preventing such infant ailments as milk colic, regurgitation, vomiting, diarrhoea, excessive gas formation and constipation by one per cent addition of gelatine to the milk diet.

Thomas B. Downey, Ph. D., Fellow of the Mellon Institute, Pittsburgh, has by standard feeding tests, determined that the addition of pure, plain unflavored gelatine increases the nourishment obtainable from milk by about twenty-three per cent.

In discussing the digestibility of milks, especially by infants and young children, Alexander and Bullowa have pointed out that the protein content may not be considered as a unity because it is composed of two proteins, casein and lactoalbumin with entirely dissimilar properties. Casein is an irreversible colloid exceedingly susceptible to coagulation by acid and rennin, while lactoalbumin is reversible and serves to protect the former.

Analysis shows that mothers' milk contains a high proportion of lactoalbumin, the casein being adequately protected. Mother's milk is resistant to coagulation by acids and rennin and its greater acceptability as the food for the infant is reflected by the low mortality where the young are breast fed. On the contrary, cow's milk contains a high proportion of casein and relatively little lactoalbumin; it is poorly protected. In consequence, the casein of cow's milk is very susceptible to coagulation by acids and rennin. The mere coagulation of the casein is not the whole story, because the coagulum carries down much of the fat present, yielding masses that have a tendency to cohere and are of a texture that is quite resistant to penetration by the digestive juices. The voiding of such masses occurs too frequently in artificial feeding; nutrients are lost to the organism and it is quite probable that decomposition products of an undesirable nature are formed within these undigested curds.

This is in way a reflection on the great nutritive value of cow's milk which is indispensable but simply emphasizes the deterrent condition it meets in the human stomach which must be neutralized to insure the complete assimilation of the milk nutriment.

From this viewpoint an obvious modification in artificial feeding is the protection of the unstable casein by the addition of suitable protective colloids.

It is of interest to give careful attention to gelatine in this place. As previously mentioned, its colloidal protection is of the highest order. It is also an excellent emulsifying agent and may function as such in either an acid or an alkaline medium. It is a common product of exceptional purity, and is an easily digested protein which is readily combined with milk. In combination with milk, the protein content is increased, food value is increased, volume is not appreciably increased and digestibility is increased. Theoretically the employment of gelatine in the child dietary is sound, and laboratory experimentation and clinical experience substantiate these conclusions.

The approved method of combining gelatine with milk is as follows:

Soak, for ten minutes, one level tablespoonful of pure, unflavored, unsweetened gelatine, (Knox) in one-half cup of cold milk taken from the baby's formula; cover while soaking; then place the cup in boiling water, stirring until gelatine is fully dissolved; and add this dissolved gelatine to the quart of cold milk or the regular formula.

It must be remembered that there is a great difference in gelatine. Realizing the importance of absolute purity in any gelatine that is combined in milk or used in any way in the dietary, the laboratories of the Charles B. Knox Gelatine Company maintain a strict and constant control of the Production of Knox Sparkling Gelatine. No sweetening, artificial flavor, or coloring, is ever added to this product.

ANNUAL MEETING
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AT
OKLAHOMA CITY
JUNE 22-23-24
IN THE
MASONIC TEMPLE

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Associate Editor, President Dr. P. P. Nesbitt, Tulsa.

Meeting Place, Oklahoma City, June 22, 23, 24, 1926.

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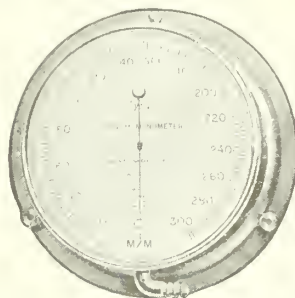
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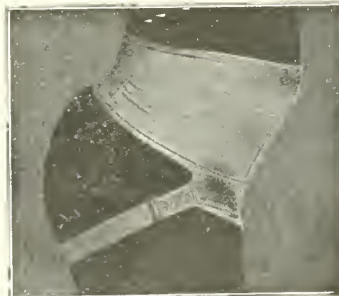
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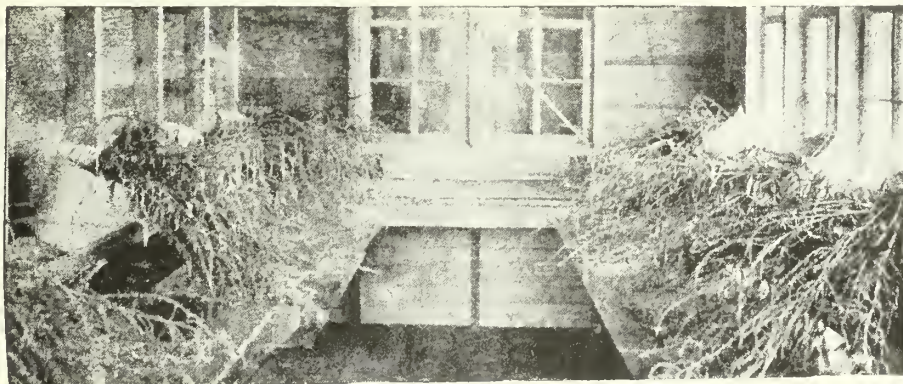
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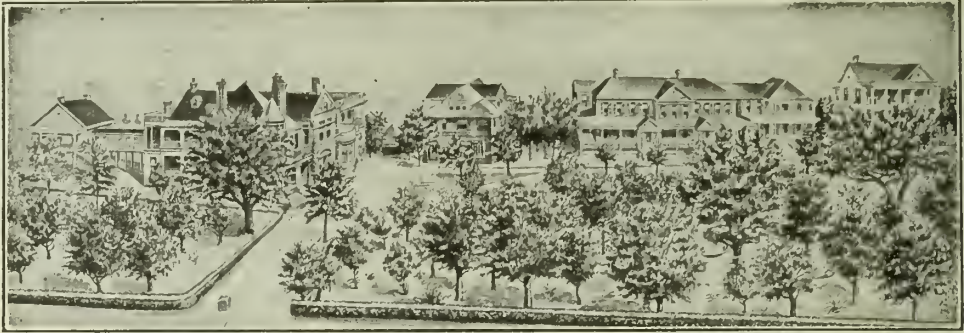
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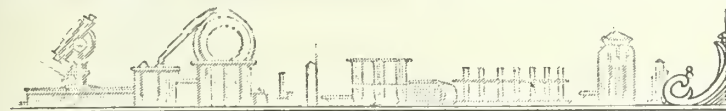
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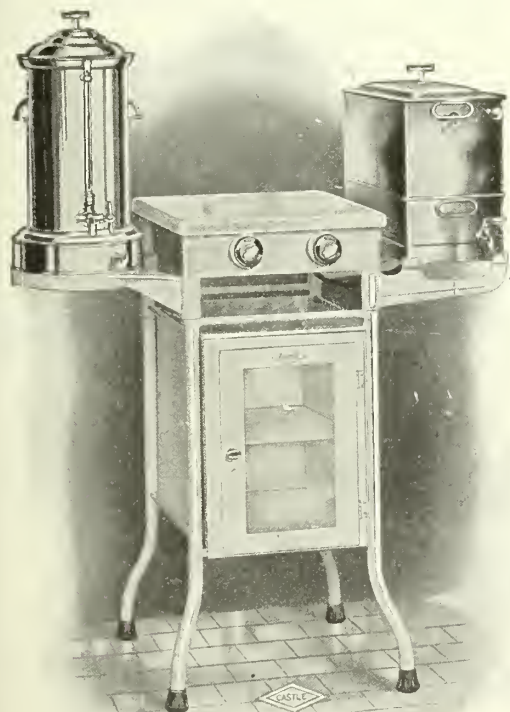
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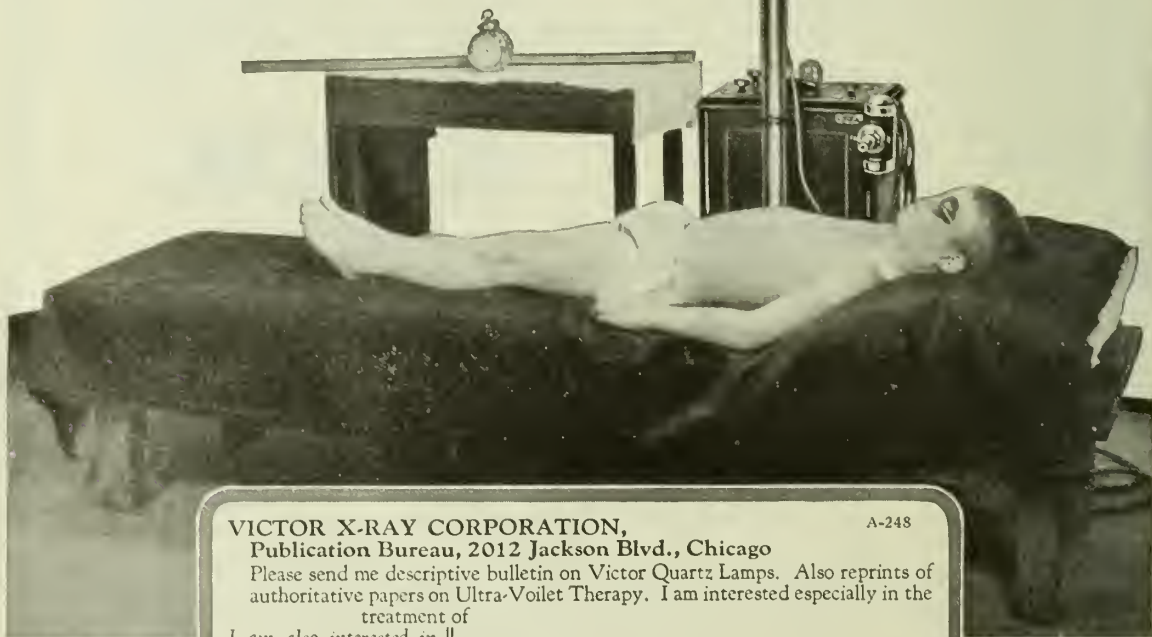
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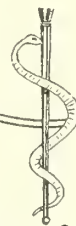
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APRIL, 1926

No. 4

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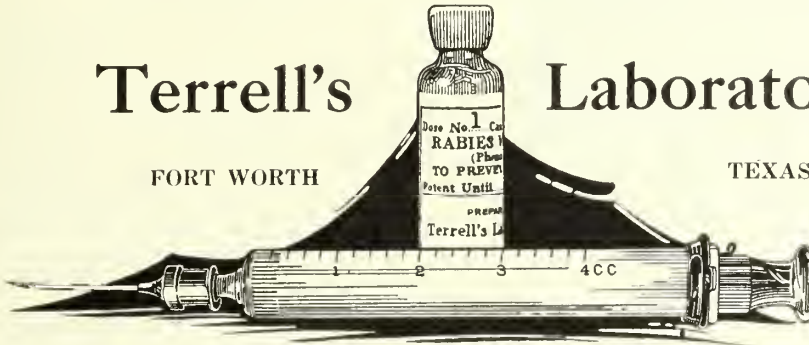
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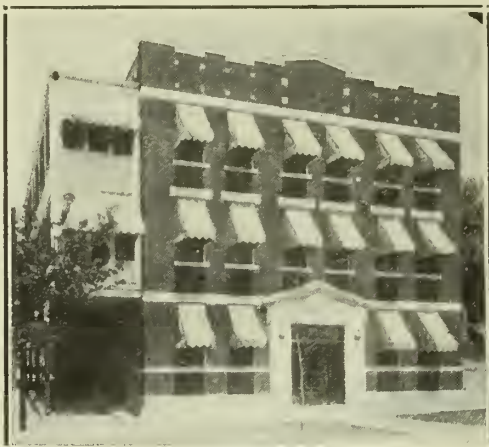
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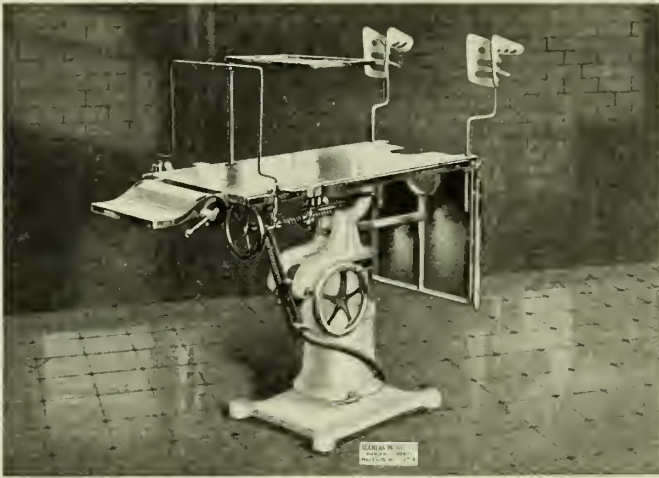
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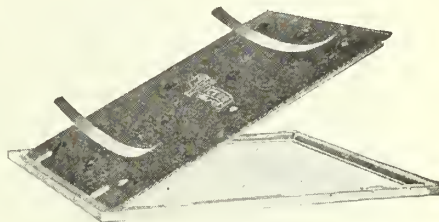
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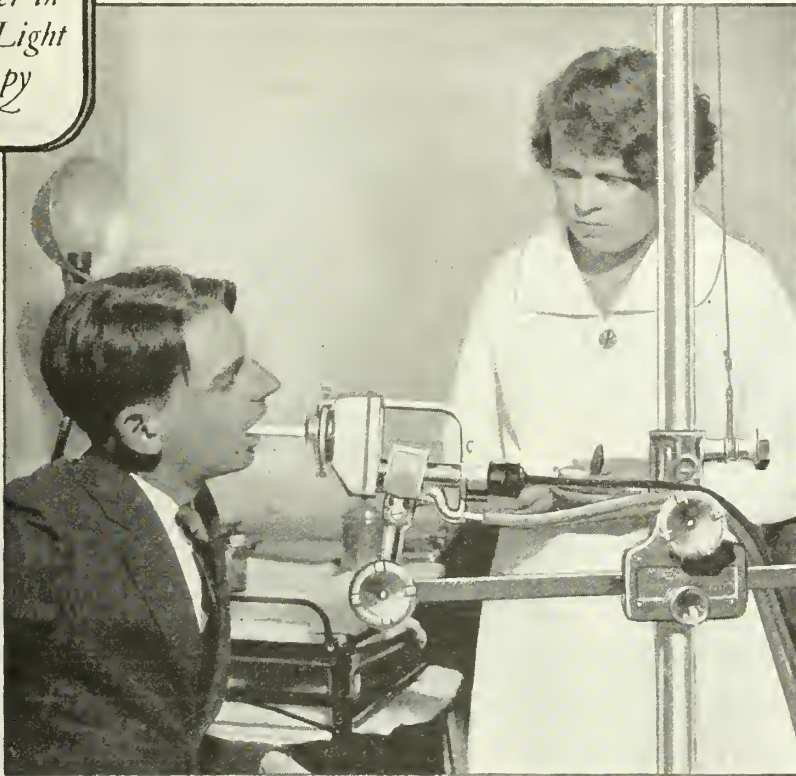
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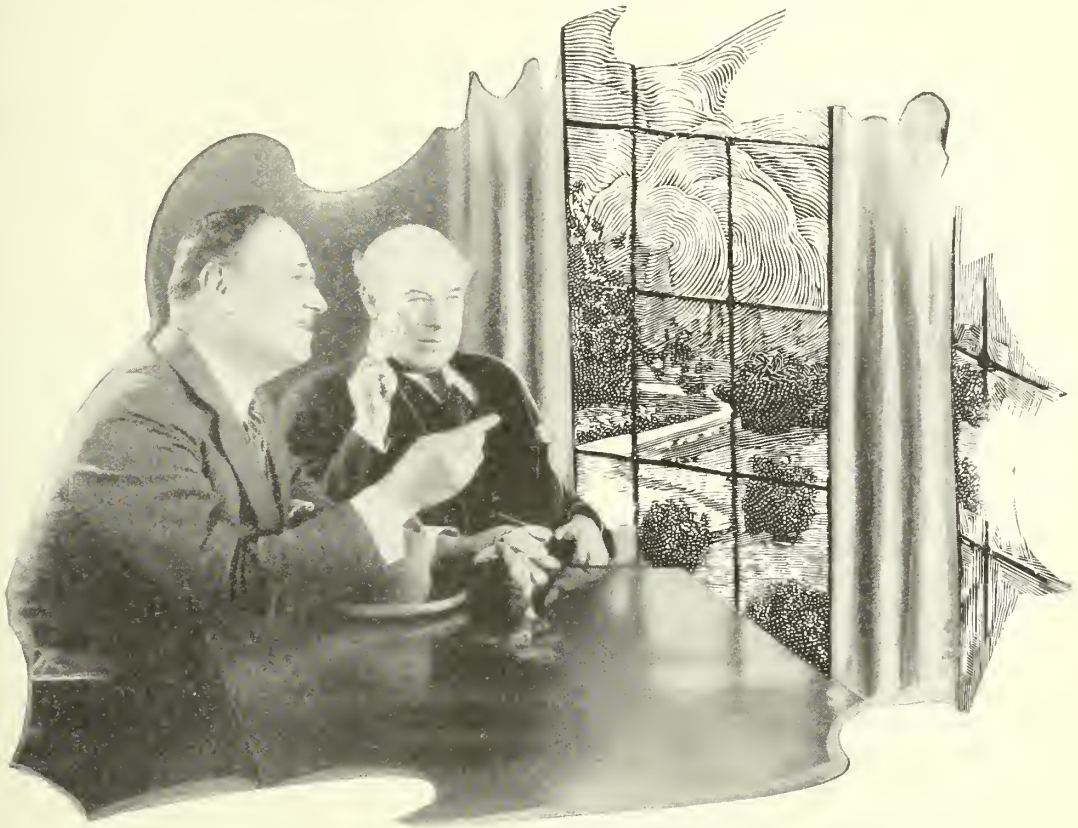
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THE JOURNAL

OF THE
OKLAHOMA STATE MEDICAL ASSOCIATION

VOLUME XIX

MUSKOGEE, OKLA., APRIL, 1926

NUMBER 4

CIRRHOSIS OF THE LIVER*

R. Q. ATCHLEY, M.D.
TULSA

Medical history reveals to us that the anatomy and structure of the liver were studied by the Babylonians as early as 700 B. C. They made very good clay models of it, even surpassing those of medieval times. Models of bronze have been found dating back as early as the third century, B. C.

In the Babylonian period the liver was considered a seat of the soul. The fetal abnormalities, especially enlarged right lobe or that of the entire organ was considered an omen of future power and success. The opposite condition of which meant weakness, disease, and failure in life.

The capsule of the liver was described by Glisson about 1700 A. D., and carries his name to the present day.

Acute yellow atrophy was first described in 1761, along with disease of the mitral valve, and cerebral gummata, but was given its name as such in 1843 by Rokitsansky.

Just before the Civil War (1858), Theodore Von Frerichs published what was probably the first book on diseases of the liver. This included cirrhosis. Laennec was first to describe the cirrhosis that now bears his name. It was later given the more descriptive name—chronic diffuse interstitial hepatitis.

Hanot in 1847 described cirrhotic jaundice. The term hepatic cirrhosis carries with it the idea of hyperplasia of connective tissue at the expense of cellular elements. The numerous conditions of the liver show the above to be true. We are most interested, in this discussion, in those types which have morbid changes and functional disturbances sufficient to warrant a classification as definite entities.

The type of cirrhosis is determined, largely, by the route or manner that the toxic agent reaches the liver. In portal cirrhosis, the most common type of cirrhosis, failure to eliminate or detoxicate toxic substances carried to the liver by the portal system bring about connective tissue change around the portal vessels, interfering with hepatic circulation.

Ascites and hemorrhage, especially from the stomach and other evidences of portal circulatory obstruction, are the end results of vascular interference.

Etiological factors as alcohol, syphilis, tuberculosis, malaria, and last but not least infections, are all familiar terms and need no further consideration. The synonyms, portal cirrhosis, atrophic cirrhosis, Laennec's cirrhosis, and hobnail liver are all given widespread recognition as a true type. This type of cirrhosis may go begging for its most commonly known etiological factor since the passage of the eighteenth amendment. Canned heat may be entered as a substitute. We find some satisfaction, however, that atrophic cirrhosis has been found in total abstainers and those having intestinal catarrh.

Biliary cirrhosis of the Hanot or hypertrophic type contrasted with that of the portal type shows the difference to be greatly one of size, weighing sometimes as much as two thousand grams. The surface is smooth upon palpation while that of Laennec's has nodules and is very firm. Microscopically there is an abundance of connective tissue of the inter-lobular and intra-lobular formation. It is sometimes true there is a mixing of the two types giving border line conditions.

Morbid anatomy and pathology, both microscopic and gross are very interesting. We are most interested in the clinical picture as it presents itself in a given patient. Enumerating the outstanding symptoms that dominate this picture we might mention the following: vomiting of blood from oesophageal varices, increasing digestive disturbances, flatulence, difficult digestion

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of fats, irregular action of the bowels, icterus, with pain and tenderness over the liver. Further investigation reveals that the attacks of the various disturbances become more frequent and of longer duration, as well as an increase in severity. The portal type reveals obstruction to the portal circulation evidenced by ascites, moderate enlargement of the liver, and increased hemorrhage. The spleen as well as the liver may become enlarged in both types. In the portal type the spleen frequently becomes primarily enlarged and it is in these cases that splenectomy proves beneficial. The advanced stages of both hypertrophic and atrophic cirrhosis produce fatal hemorrhage, weakness, emaciation, coma, and death.

The diagnosis of Laennec's portal cirrhosis may be overlooked for years and even unsuspected until autopsy has been performed. Primary biliary disease gives more definite early symptoms, such as jaundice, periodical attacks of fever, leukocytosis, and enlargement of the spleen and liver. The jaundice is usually more marked and the stool more acholic than in the atrophic type. As the disease advances the size of the two types of liver gives a fair index as to the condition. The slightly enlarged, nodular border of the Laennec's must be compared with the much enlarged, smooth, firm border of the Hanot, with jaundice as a marked symptom.

Banti's disease, splenic anemia, and syphilis of the liver, present difficulties in crystalizing an opinion as to the exact type of cirrhosis that is being dealt with.

Dr. Bifield of Cook County Hospital, Chicago, goes so far as to class hepatic cirrhoses, Banti's disease, and splenic anemia in what he calls a spleen-liver syndrome. He gives alcoholic cirrhosis and Banti's disease a toxic origin with biliary cirrhosis a position between the two. He states that a toxemia may affect the spleen equally as much as the liver, especially in the Laennec type. Syphilis of the liver is always difficult but the blood Wassermann and the therapeutic tests will help as well as a history and clinical symptoms. There is a remarkable parallelism in the relation of an enlarged spleen to both portal and biliary cirrhosis. In the ordinary type of portal cirrhosis it is often possible to trace the origin of the disease to the gastrointestinal tract.

The prognosis in any type of cirrhosis is eventually bad. Many live to be old be-

fore alarming symptoms develop. The last weeks of life are usually those of ascites of enormous size especially the legs and ankles, dyspnea, digestive disturbances, insomnia, and heart complications terminating the scene.

Pulmonary and peritoneal tuberculosis are found in about twenty per cent of cirrhotic cases and in ten per cent it is the immediate cause of death.

The treatment of cirrhosis of the liver may be classified as dietary, medicinal, and surgical.

The etiological factors as alcohol, spices to excess, highly seasoned foods, fats and sugars, and over indulgence in allowable foods, should be prohibited. Eggs, tender meats, with little fat, vegetable and cereals should be the principal articles of diet. Sometimes it is advisable to follow an exclusive milk diet to bring results. A quiet life away from nervous strain and high tension as a sojourn at a resort is beneficial. Elimination is essential and the emunctory organs must not be overlooked. If there is a suspicion of syphilis proper treatment should be instituted. The ascites requires attention in most cases of advanced cirrhosis. Depleting drugs such as saline cathartics, digitalis, and diuretics are beneficial as eliminants. Tapping must often be introduced. This should be done under the most strict surgical asepsis, as a goodly per cent of infections follow the procedure. Other surgical procedures have been advised and performed for the relief of the collecting abdominal fluid and liver drainage. These procedures have, as their mechanical purpose, the increasing of the anastomosis of the portal vein and the general circulation. The epiploplexy of Talma-Morrison is especially adapted to Laennec's cirrhosis which gives relief by increasing the circulation in the liver surface. To obtain gratifying results from this operation great care must be taken in the selection of cases, because a considerable per cent has kidney, heart, and tubercular complications. Monprofit reports in one group of operative cases thirty-seven per cent cures, with many failures in other groups. As above mentioned, Dr. Byfield, of Cook County Hospital, places cirrhotic cases especially those of the Laennec type in a spleen-liver syndrome with a toxic or infective agent. He gives as contra-indications to the procedure, leukemia, acute infections, Gauchers disease, and Hodg-

kings disease. The indications for the procedure are those of alcoholic cirrhosis, Banti's disease, biliary cirrhosis and splenic anemia. He also advises splenectomy in those conditions where, in the opinion of the operator, they will be followed by hepatic cirrhosis. In those types of biliary cirrhosis, in which there is no apparent infection or obstruction, where the spleen is enlarged, splenectomy may have value if not too long delayed. These facts lead to the tentative conclusion that there is a direct relation between the spleen and certain types of portal and biliary cirrhosis. It is true that such patients usually come to operation in a terminal condition and are usually at the stage in which function of the liver cannot be restored.

SUMMARY

Liver diseases have been known since 700, B.C.

In the present incomplete stage of our knowledge, cirrhosis of the liver may be divided into fairly definite groups: (1) portal cirrhosis, the result of deposits of connective tissue around the radicals of the portal vein causing ascites and hemorrhage from the stomach; (2) biliary cirrhosis, the result of deposit of connective tissue around the biliary duct system causing chronic jaundice.

The portal may be of two distinct types clinically, a primary gastro-intestinal type sometimes definitely the result of alcohol or pepper or other irritating substances in foods. The other the result of obstruction and infection of the biliary ducts usually associated with gall stone disease.

The trend of liver cirrhosis seems to be toward early diagnosis of the condition, and determining if it does not come in the spleen liver syndrome so some more beneficial treatment may be instituted as splenectomy.

I want to impress the reader to be on the alert for this condition and diagnose it clearly.

—O—
LAENNEC*

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The latter part of the eighteenth and beginning of the nineteenth century is ver-

itably the golden age of medical renaissance. Before this time medicine was either empirical or dominated by all kinds of metaphysical conceptions but in those days giants lived and stamped an imprint on medicine of which we are reaping the benefit and glory today.

In France we have that wonderful anatomist Bichat, a Breton, a friend and teacher of Laennec. He was the creator of descriptive anatomy—he is the man who set up the landmark between the two centuries in medicine. He completely revolutionized anatomy and physiology by his "Anatomie Generale", and also brought the new anatomy of the tissues to bear upon pathological anatomy and clinical medicine. Here the divergence between clinical and analytical science on the one hand and theoretical and deductive science on the other which has characterized so many discussions during the past centuries and has rendered them particularly acrimonious because of the failure to distinguish sharply between the theory and practice of medicine. His description of many anatomical features, especially the layers of cervical fascia, will class him high in medical history. Pinel, who made insanity a disease rather than a crime, and gave these unfortunates a chance to be cured.

Bayle, Laennec's beloved teacher who he said was "unrivalled among practitioners for precision in diagnosis." Few men have combined to so high a degree the qualities which go to the making of a sound physician and skillful investigator. He was gifted with wonderful powers of perseverance—nothing could tire or dishearten him, indeed application seemed to be so inherent in his nature that none of his friends and fellow workers ever saw him through lassitude, discouragement or neglect, omit to do that which was to be done. He was imbued with religious principles even to the extent of austerity. It is said that he did one or more autopsies a day, keeping accurate notes together with accounts of diseases from which the patients had succumbed.

Corvisart, another of his instructors, is one of the great men in French Medical History. The personal medical attendant of Napoleon, and whose medical fame is due to the fact that he is one of the founders of pathological anatomy as the effective introducer of the method of percussion by his advocacy of the discovery of Aven-

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brugger and as a writer on the phenomena of disease of cardiac dyspnoea.

Dupuytren, eminent alike as diagnostician, teacher, orator and pathologist, a narrow character who has been called the first of surgeons and the least of men. His contemporaries abroad were Abraham Colles, Colles fracture and Colles Law. John Cheyne—Cheyne Stokes respiration, William Stokes—Stokes-Adams syndrome, Robert Adams, heart block, Dominec John Corrigan, Corrigan's pulse. Robert John Graves, Graves Disease. James Parkinson, Parkinson's Disease. Thomas Hodgkins, Hodgkins' Disease, who was a pupil of Laennec and spent much time with him. Thomas Addison, Addison's Disease. Richard Bright, Bright's Disease of the kidney. Withering had just written his monograph on Digitalis. Jenner, who was the originator of scientific preventive medicine while introducing vaccination in 1798.

Matthew in England was the father of morbid anatomy, a man of great distinction in his time and enjoyed a wonderful consultation practice. He was a nephew of the great John Hunter from whom he received much stimulus in his work.

In Vienna Avenbrugger had devised a system of diagnosis by means of percussio and this marked one of the milestones in medical progress. His work was translated into French by Corvisart in 1808 and fitted in very well with the work which the author of our paper developed and helped to take away from medicine the keen satire which the trenchant pen of Moliere had so effectively and so justly leveled at the thin system as practiced at that time.

At that time Hahneman and Mesmer were at the zenith of their influence and it took wise men to keep medicine from being trampled to the dust. Among other notorious quacks of those days were James Graham, St. John Long, Taylor Brothers and others, but "let oblivion scatter its poppies over them for they never numbered amongst those who have left a name behind them that their praises might be reported."

In America McDowell had done his first ovariectomy. Benjamin Rush was at the height of his professional glory. University of Pennsylvania, Harvard and Transylvania University were turning out able physicians.

Rene Theophile Hyacinthe Laennec was born of Celtic parents at Quimper in Brit-

tany, February 17, 1781. This little town flanked by a high hill lies along the banks of the Odet with its rushing tide. His home stood upon the quay, it stood amid scenery which 'tis said rivals that of the most beautiful of Italian views. Here he came many times during his intensely active life and the wonderful climate and beautiful scenery restored his sick body and tired brain so that he could go back to Paris and resume his arduous labors with a renewed vigor and increased mentality.

His father was a notary or a lawyer, a rather brilliant but improvident personage whose poetic instincts were handed down from the Breton poet Malherbe. He was a man of charming manner, cheerful disposition, good health, much literary culture, always writing poetry but lacked common sense, proper pride and genius—he did nothing worth while all his life. So undependable was he that he assumed none of the responsibilities of education or support to the four children who bore his name.

It was from his mother that he received the heritage of a frail body which was susceptible to tuberculosis and after having been married six years and giving birth to four children she succumbed to the great white plague. Little is said about her by any of his biographers.

After his mother's death Rene and his brother Michaud were placed under the care of his uncle the Cure of Elliant. On the removal of the uncle two years later the two boys were sent to Nantes under the care of Dr. Guillaume Francois Laennec, who at that time was rector of the local University. This same uncle had studied under John Hunter in England and was a physician of no mean ability. It was in him he found a friend, an adviser and a father indeed as he helped to get the best education that Nantes could afford and was more than repaid by the brilliant rise of his nephew who dedicated his book to him rather than his father. France was in the midst of a Revolution then and the ghostly guillotine was erected under the very windows of his house and they had to flee to the basement and back rooms to escape the shrieks of the victims and the noise of their falling heads. (It is interesting to note this college did not close so their studies were not interrupted). Under the celebrated Fauche he studied at the College de l'Oratoire. In 1795 he began the study of medicine at the

Hotel Dieu at Nantes (14 1/2 years old). At that time he was an ardent student of the classics. At 11 he had translated the first decalogue of Virgil into excellent French verse. He was especially interested in Greek and wrote his Doctor's thesis on Hippocrates in 1804. He was industrious, but found time for music, dancing and rambles into the country collecting insects, plants and birds. Sometimes his devotion to these amusements, especially music, (as he played the flute) was so great as to worry his uncle. He went to Paris and entered Medical School in 1801, May 2nd.

There were then in Paris two schools of thought. That of Pinel who taught at La Salpêtrière was the more popular. Its disciples were theoretical and interested themselves chiefly in the classification of disease (Nosography). The other was headed by Corvisart at La Charité. It took morbid anatomy as its foundation; Laennec's previous training at Nantes under Bichat on morbid anatomy inclined him to this school. Others say that due to Bayle, who made a great impression on his contemporaries, he and Laennec became firm friends for life. Corvisart was in his prime as a great teacher and although he did not like him yet he attended his lectures very assiduously and took copious notes. He is said to have used a system of shorthand and almost all of his notes on Corvisart's lectures are preserved today. He, Bayle and Dupuytren determined conjointly to write a book on morbid anatomy, but it fell through and Laennec decided to write one himself. His first publication was a description of a case of Mitral Disease, and two months later an original piece of work on Peritonitis which drew him considerable attention. In 1803 he began to deliver lectures on morbid anatomy. Dupuytren did the same, Bichat having died by this time.

Hale White says, "he was a small attenuated bony figure with prominent cheek bones, hollow cheeks, thin nose and lips, calm reflective blue grey eyes, a long head covered with carelessly combed chestnut hair, who was not handsome but not ugly, whose face showed much distinction and intelligence, having gained his degree was now cast upon the world to earn his livelihood and to illuminate it with his genius, not often equalled in our profession. He also had a big upper lip which was brought to excellent service when he played on his flute, an instrument of which he was pas-

sionately fond. He made a great impression in Paris and greatly accelerated his fast growing reputation. He would begin in a slow gentle voice, but his lecture would end in a torrent of eloquence. He would speak with fluency for two hours and with a choice of expressions very rare in Paris.

Laennec always intended to write a book on morbid anatomy but he abandoned that and gave more time to clinical work. M. Gley said he raised his subject to the rank of a science by a proper classification of his observations and by correlating the symptoms present during life with the appearances found after death. He, as few other great men, have had the power of observation exalted to such a degree that it becomes a genius, a rare gift far more uncommon than high thinking. Sydenham says: "true practice consists in the observations of nature, these are finer than speculations." His precise and original descriptions of clinical symptoms and post-mortem appearances, until then unknown, but which are most as accurate as present writings on pulmonary tuberculosis, pneumonia, pulmonary apoplexy, pulmonary edema, pulmonary gangrene, emphysema, dilatation of the bronchial tubes, hydrothorax, pneumothorax and some forms of cardiac disease. He first described the crepitant rale, egophony and pectoriloquy. Before Laennec's time a physician's examination of his patient consisted entirely in observing his appearance, feeling his pulse, looking at his tongue, examining his urine and the lips. Now a really objective examination of certain organs could be made at any rate of the organs of the thorax. Objective criteria were henceforth demanded and nosography had thus been placed on quite a new and firmer footing. Laennec caused the genius provided by Pinel and Bichat's anatomical ideas to spring into life clinical medicine. He first brought to use the stethoscope, it is said suggested by seeing two children talking to one another through a hollow log but brought to a practical necessity when a very obese female consulted him for some chest trouble. The necessity may have arisen from a natural timidity of placing his ear on her bare chest, or an olfactory objection because of his acute sense of smell. His observations with the structure of the stethoscope was that substances of medium density such as paper, wood and cane are preferable to glass and metals. Heart beats are conducted best by a solid

wooden cylinder while he used a central tube bored through the center. A large phlange on the end placed next the ear and a small hollow next to the patient's body. This is called the monaural stethoscope and is still used most altogether on the continent even to this day.

It is surely one of the most marvelous results of genius, observation and industry that without any one to teach him their significance this sickly young physician should be able as a result of only three or four years' work to publish a book in which he incorporates an account and accurate classification of all these sounds—tell us what each of them signify and in addition informs us that he has discovered and is able to acquaint us with the value of egophony and pectoriloquy. The book is beautifully written and the descriptions are accurate and clear without the encumbrance of superfluous words. It has become and will always remain a classic.

His health had entirely failed him and he returned to his native country to recuperate in his native town where he spent much time hunting with his two spaniels, playing the lute, treating his poor neighbors and studying his native Breton tongue and folk lore.

In two years he was able to return to Paris where he was made Professor and Royal lecturer at the College of France. The chair was founded in 1542 and almost all before Laennec had been men of little distinction but since then have been such men as Majendi, Claude, Benard, D'Arsonval and Gley. Notes in his own handwriting for nearly all the lectures still exist and from these we learn that they covered the whole of medicine.

He was most courteous, helpful and polite to all, there was no ostentation and although his countenance was austere, a short acquaintance revealed a kindness and good nature incapable of envy or malice. Much of the time he talked in Latin, partly because he thought this ought to be the universal language for scientific men, and partly because some of the foreigners were not conversant with French. He wrote his observation on the case in Latin and many are preserved in the Laennec museum.

From unpublished letters in Johns Hopkins Bulletin (Thayer. Dec., 1920) we get

a glimpse of his daily routine. He writes a friend thus: "I arise at half past seven or eight o'clock, I need much sleep, I dress myself generally while giving consultations. I make my hospital visit (at Hospital Necker) and then a bit of clinic to half past ten and already time presses the students who follow me. This brings me to such extent that generally I cannot return to my home for luncheon. Then I begin a round of visits which end only at about half past four or five. After dinner that is to say at about half past six, I begin another round which lasts until ten o'clock. There then remains for me one hour until eleven when I go to bed, plus several minutes from time to time before breakfast and dinner to keep up-to-date my correspondence of all sorts, to correct and put in order the observations gathered by the students in my hospital, to arrange my little affairs and so forth—I think very seriously, *entre nous*, of arranging my affairs so as to be able in a very few years to retire to lower Brittany. Had I that which was due me here it would probaby be today."

Private patients flocked to him and he quickly restricted himself to consulting practice which increased rapidly and 'ere long his annual income was as follows: From Faculty of Medicine 10,000 francs, from College of France 5,000 francs, from Duchess of Berry 4,000, and from his private practice between 20,000 and 25,000.

So busy was he that the rich were often turned away, but time was always found to see the poor who paid nothing. Meriadec helped him with his patients. Guillaumme's other doctor son, Emanuel, was now studying in Paris and Laennec was of use to him. His first year of practice was not so remunerative as he only collected one hundred and fifty francs but in the second year he collected four hundred.

A bright mind like his traveling on an unbeaten path necesarily became the butt of ridicule. The dogmatic pompous, impetuous Broussard was his chief opponent. It is said that he asked contemptuously whether Laennec lived within his patients lungs because of the accuracy of his diagnostic feats to which Laennec replied that it was not necessary for a naturalist to live in a chrysalis to fortell that a butterfly would come out of it. Thayer says

"It is interesting to read the fine, impassive, logical comments of Laennec upon the views of his fantastic adversary." He had many enemies and detractors. A large number of French doctors and medical papers attacked him scurrilously. His rapid rise to European fame and the number of foreigners who flocked to hear him, the unusual success of his book, the quiet growth of his practice all combined to make many very jealous of him. He triumphed over the numerous scoffers because he worked in public in the wards of the hospital so that his crowds of students who followed him were able to testify to the truth of his statements and this they did with the enthusiasm that so great a teacher had communicated to them.

His reputation spread to foreign countries more quickly than in France. Although Chateaubriand praised the discovery of auscultation, but it was the English who most appreciated his work. Hodgkin was one of his pupils. An order of the British admiralty read that naval surgeons were to familiarize themselves with the use of the stethoscope. His famous book was was partially translated into English by Forbes as early as 1821 and went through several editions.

Kipling wrote about "Marklake Witches," in which the Duke of Wellington and Laennec with his stethoscope play their part, yet Laennec was never in England.

Laennec married Madame Aegon, aged 45, whom he had known for a long time. She was two years his senior, a devoted wife and a great help to him during his last two years, both in attending him and looking after his affairs. He even became optimistic about his health and he began to correct proofs for the second edition of his book on "De L' Auscultation Mediate."

His health soon failed and he returned to Kerlournac, his manor at Ploare where he died August 13, 1826, in the 45th year of his age.

Anatole Le Braz wrote this poem about the winds of Brittany.

"Blow, blow, oh bitter wind,
Oh King of the the winds, Oh wind of
the sea,
Oh wind of the sea, Oh king of the winds
They say it is God when it passeth,
Who speaks to the faithful souls as it
passeth."

THE PROBLEM OF RURAL OBSTETRICS AND PEDIATRICS*

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The purpose of this paper, which is based upon a few facts, more near facts and many impressions, gathered together during my one year's service as Director of the Bureau of Maternity and Infancy, is to arouse interest and initiate action in a state-wide program for the betterment of conditions as they pertain to the life and health of mothers, infants and the pre-school age child in particular and incidentally the citizenship of the state in general.

By the terms of the Sheppard-Towner Act, the activities of the Bureau must be wholly educational; no treatment can be given and no force used. The work is carried on according to a plan designed by us and approved by the Federal Board, consisting of the Surgeon General, the Commissioner of Education, and the Chief of the Children's Bureau. Each state submits plans it deems best suited to its local problems.

Since of our 2,028,000 population, all but 200,000 are native-born American, white people, and since practically one-half of these own their own homes, our problem differs from that of, say, the New England or the Southern States. The large principle, and the methods of carrying this principle into effect, which governs the Oklahoma plan is based upon what we consider a fundamental fact, *i.e.*, that in the final analysis, the general standard of obstetric and pediatric practice in any community depends in a very large measure upon the standards set by the physicians in that community. Therefore the chief contribution the Bureau of Maternity and Infancy can make to the cause of lowering the damage and the death rate among mothers, infants and the pre-school age child is to aid the physicians in setting this standard as high as is practically possible. To my way of thinking obstetrics cannot be practiced by mail nor pediatrics over long distance. The people of any given community must depend in a very large measure upon the local physicians. Therefore, the better qualified the local men and the better the spirit of co-

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operation and sympathetic understanding between the individual patient and the physician, the better the resultant service. The impression I have at this time, although it may be based upon too limited knowledge, is that there is considerable confusion in the minds of the lay public as regards the relative merits of physician and physician, or method and method, and considerable distrust as to the physician's motive. My further impression is that there is a mistaken idea on the part of the physician as to the layman's desire for and capacity to sense the basic underlying principles of medical knowledge. The physician also seems to tend to under-estimate his own value to the community. The claims of the cultists, all of which circulate airily under the title of "Doctor", conflict with those of the doctors of medicine and too often the doctors of medicine emphasize all too freely the few differences they have rather than the many, many points and principles upon which they agree. The public, ignorant as it is of the barest fundamentals of the etiology of disease in the main, knows not where to turn for the relief it so sorely desires. On the whole the state over, it is my further impression that the general practitioners doing obstetrics are much better qualified to do more nearly correct obstetrics than one might be led to suppose from their practice and that as a whole they do not fully sense the fact that pediatrics is a specialty and that infant feeding properly taught by the general practitioner could be made the magic key that would open to him a large, lucrative practice in the general field, or perhaps later on to any of the specialties did he desire to limit his practice.

There has been a tendency on the part of the younger practitioners entering upon a rural practice to permit their methods in obstetrics and pediatrics to be dictated by the lay people, totally ignorant as these lay people are of the fundamentals of modern medicine, under the mistaken impression that it were either that or failure.

The following story illustrates this point:

A certain doctor entered upon a rural practice here in the state some twelve or fifteen years ago. He had been educated in one of the better medical colleges and so had been carefully trained in the principles of asepsis as this applies to obstetrics. He felt it would not be long until he would have a large obstetrical practice in view of the fact that he was the only young man so trained in his field. Soon

after hanging out his shingle he was called to a confinement case. He took with him his sterile obstetric supplies, wore sterilized rubber gloves and in other ways conducted the case to his own entire satisfaction. Later he was called on a second case which he cared for in the same manner with the same, to him, satisfactory results. After that he was called no more. His wife and babies needed bread. Something must be done. Finally one day a year or two later he swallowed his pride and sought the advice of an older practitioner as to the cause of his failure. The older man, after the manner of such, chuckled consolingly, and spoke as follows or with words to this effect: "Yes, I know. You were doing your conscientious best but these people don't appreciate proper care. What they want is to have these cases cared for as their mothers and grandmothers were cared for. That fellow Jones was telling me about how you took care of his wife. He said you were so afraid they didn't have any clean sheets that you brought your own and were so darned afraid of getting your hands dirty that you wore rubber gloves."

And so even though our medical schools have been preaching and teaching correct obstetrics for years, the only lay people, as a whole, who have benefitted thereby have been the folks of the cities where the general average is usually much higher than in the country. The same practice that obtains in obstetrics can be noted in the pediatric field. For lo! these many years we have been laboring under the mistaken impression that grandmothers and older women possessed some curious, mystic knowledge of proper baby care. General practitioners of our father's day were wont to opine that "some old lady" could treat that child better than he and younger men, though they cannot be blind to the incorrectness of this view, either lack interest to qualify in this most promising field, or the courage to face the grandmother. In either event, the price paid is all out of proportion to the hardship imposed upon the physician, if indeed it be a hardship, as last year in Oklahoma out of 50,463 babies' births reported 3,641 babies under one year of age died, not counting the 856 still-births reported. Since in many counties and in many localities in many more counties little attention is paid to reporting either births or deaths, the above figures are known to be too small.

An analysis of these figures reveals the following causes of infant deaths:

Premature birth and injury at birth.....	1,062
Still births.....	856
Enteritis under two years.....	790
Diseases due to early infancy.....	559
Congenital debility.....	48
Congenital malformation.....	9
Lack of care.....	5

An analysis of maternal deaths reveals the fact that 152 were due to puerperal septicemia, 66 were due to puerperal hemorrhage, 51 were due to accidents of pregnancy (abortion, etc.), 16 were due to puerperal albuminuria, 11 were due to "other accidents of pregnancy" (operative deliveries, etc.), and 8 were due to "fol-lowing childbirth".

This total of 301 also we know to be incorrectly small, as it is a well known fact that some physicians take advantage of any possibility to report such deaths under different heads or even neglect to report them at all.

An analysis of the ten highest causes of death, as reported for 1924, emphasizes the grave responsibility resting upon the physician who essays to practice obstetrics and pediatrics. These figures are as follows:

Diseases of the heart and blood vessels.....	1,371
Tuberculosis.....	1,287
Premature birth and injury at birth.....	1,062
Pneumonia.....	1,054
Apoplexy.....	867
Chronic nephritis.....	860
Still births.....	856
Enteritis under two years.....	790
Diseases due to early infancy.....	559
Broncho pneumonia.....	497

Total.....9,203

Deaths from all other causes combined as reported total only 7,900, making a grand total of 17,103. Five of the above causes of death, namely, deaths due to prematurity, still births, enteritis under two years, diseases due to early infancy and broncho-pneumonia are *per se* the direct problem of the obstetrician and pediatrician and it is not unreasonable to suppose that if every expectant mother were given a complete, thorough physical examination as early in her pregnancy as the condition were known, and that maladies revealed were properly treated, an appreciable decrease could be shown in the deaths due to four of the remaining five, namely:

Diseases of the heart and arteries.

Tuberculosis.

Chronic nephritis and apoplexy.

Furthermore, knowing the havoc pneumonia, following influenza, plays with the pregnant woman, neither is it unreasonable to suppose that, with careful, periodic watchful prenatal care even this malady,

the "Captain of the men of death," might be partially put to rout.

With the above facts, near facts and impressions to crystalize in tangible form our problem, the next step is to make a survey of our resources and to outline our plan of attack.

First and foremost comes the physician, that most peculiar and lovable of all men, who, guided solely by a spirit of altruism, has, like Holmes' "Chambered Nautilus," built for himself in successive ages more "stately mansions" (of the sort that can't be taxed to build good roads) until now he is far removed from that time when a dried gourd and a few pebbles, teeth or bits of bone represented his total material armamentarium. His history traced through his successive "mansions" furnishes one of the most inspiring, human, heroic themes that can be written. He has made mistakes individually and collectively, he is still making mistakes—though in much reduced number—and he probably will continue to make some mistakes until the millennium. But his heart is in the right place and his feet on the right track. And of all physicians in the United States of today, I honestly believe there are none more filled with the spirit of love for his fellow men, sincerity of his efforts, generosity of his service, and patience with his public than are our doctors in Oklahoma. True it is that there are some few exceptions that have brought forth unfortunate results—some laughable, some tragic, some petty, some regrettable; for instance I have in mind a physician in a certain part of the State whom I had recommended highly to a certain patient who had sought my advice for what one would be lead to believe from casual observation was an exophthalmic goitre. I ask her if she had had a thorough physical examination and when she said she had not, inquired why she did not have doctor-so-and-so make this examination, adding that he impressed me, as I watched him work with the children, as being quite competent to give her an intelligent examination. "What," she said, "him! why he has been doctoring me for five years for change of life. I have had two babies in that time."

There is the other physician who evidently had used pituitrin inadvisedly with a breech presentation, without having previously diagnosed the presentation nor taken into account any of the existing conditions. There is the very occasional local physician who, when asked to examine the

pre-school age children at some Child Health Conference, seeks to feather his own nest by inviting the mother to bring her child to him for the correction of defects rather than magnanimously following out the request of the Bureau to refer all children back to their own physicians. An act of this sort, by the way, I can truthfully say is seldom attempted as, on the very face of it, can be seen nothing but chagrin and disappointment for the unwise seeker after practice as most mothers bring their children to these conferences because they desire an unbiased, honest diagnosis, and can one blame them if they surmise that the diagnosis might be colored by the possibility of a fee? In still a few other instances it would appear that, hounded on by an unsympathetic money-mad public that considers the dollar sign the symbol of success, some physicians are guided in their choice of treatment more by the size of the fee obtainable than the relative merits of the various methods of cure applicable.

Taken as a whole, however, the medical profession is just as altruistic, just as sincere, just as industrious, and a whole lot more efficient—thanks to the work and the studies and the sacrifices of the physicians of the past—as their predecessors. But now about the number and their distribution, and such matters.

A survey, which I now have under way, would indicate that Oklahoma has approximately 1900 physicians, ranging in numbers per county from one in Cimarron to 173 in Tulsa. The average age of these men varies from 44 in Tulsa county to 59 in Ellis. The average age of those in Oklahoma City is 45 years; in the City of Tulsa 43; that for the rural sections of the United States as a whole, according to Dr. Pusey, is 52. Boston's is 44. We were able to secure ages of 1800 of the 1900. These are grouped as follows:

Between 20 and 30.....	23
Between 30 and 40.....	262
Between 40 and 50.....	594
Between 50 and 60.....	621
Between 60 and 70.....	240
Between 70 and 80.....	54
Between 80 and 90.....	6

Total.....1800

Since my survey is not complete, it is impossible to say at this time whether or not the distribution is advisable. With good roads gradually growing better and

the automobile, many families are much closer in point of time to their physician than they were a few years ago, even though at that time most every village supported one doctor, a thing that is now not true.

An analysis of our State shows that of our 2,028,000 population, 1,489,700 may be considered rural; that is, that many people live on farms, in villages or in towns of less than 2,500 population. Approximately 1000 of our physicians live in rural communities but it is estimated over the United States as a whole that one-fourth of the rural population is cared for by city physicians. Therefore, each doctor must treat 1355 persons whereas each city physician has only 750.

Incidentally it may be of interest to you to know that the State numbers approximately 108 osteopaths and 290 chiropractors.

Although it would appear that adequate medical care is wanting in some communities, still, as compared with competent nursing care, it seems plethoric. Outside the cities the skilled graduate nurse is practically an unknown quantity. Some of the smaller hospitals are even supervised by under-graduate or practical nurses. An occasional professed mid-wife is found but it would appear that in many of the more sparsely settled counties, the obliging neighbor or the mother's mother performs the mid-wife's duties.

As scarce as are the competent nurses for private duty, the competent Public Health Nurse is still even more so. The entire number in the State does not exceed 50, with the majority of these in Tulsa and Oklahoma City. This number also includes the half dozen I have with me.

Right here may I define my idea of a competent Public Health Nurse. I am in serious need of some and you may aid me. She must be drilled in the fundamentals, with not less than a high-school education, preferably a University Degree, a graduate from a reputable hospital, and schooled in public health nursing. She must possess tact, a sense of humor, an innate sympathy and love for humanity, and a plastic mind. She must be patient, tolerant, sincere. She must possess personality and have the right attitude towards the ethics of her profession. She must not essay the role of physician. Her own health should be good. In fact, if possible, she should possess brains, beauty and brawn and of

these three I place brains and beauty—beauty of character—foremost. A public health nurse is not a government mule and will never fill the place she is supposed to fill so long as she is chosen solely with an eye to her capacity to stand fatigue.

As regards hospitalization for maternity cases, the American Legion Hospital at Norman, is so far as I know, the one hospital in the State that has prepared for maternity work on a scale commensurate with its preparations for surgery. If the statement I heard made by a prominent surgeon in southwestern Oklahoma is correct, to-wit, that a very large per cent of surgical work is necessitated by bad obstetrics, the men responsible for the construction of the Normal Hospital certainly must be on the right track.

* * * * *

And now about our plans of the past and our plans for the future. The plan for the past year was devised chiefly to save the life of the Bureau. A year ago, after a careful thinking through of the problems presenting themselves, it was decided that unless some plan were adopted that would advertise the purpose of the Bureau to the greatest number of people in the shortest possible space of time using the best possible program that could be worked out for such superficial treatment, the Legislature just closed would in all probability lop off the entire Bureau as a useless and unwarranted extravagance. The relative merits of a broad superficial program were compared with those of a small intensive one and certain criticisms expected when the former was adopted. To our pleasant surprise we have found our public very kind. The criticisms that have been made are few indeed compared to what we expected and practically all have been justly made or were based upon misunderstandings.

Briefly speaking, through the future program we hope to reach the expectant mothers, through the pre-natal and post-natal letters, through talks, mother-child classes, pre-natal conferences, personal visitation, and through the health centers; the potential mothers through the schools, Junior and Senior high and the higher schools, and the pre-school age children, through the Child Health Conferences. We have found the individual isolated mother is best reached through the series of pre-natal and post-natal letters, with which most of you are familiar. These letters

are based upon those used in Massachusetts, but have been revised to better cover conditions in Oklahoma. Each letter is accompanied by pamphlets and other helps. Three of these, namely "Pre-Natal Care", "Child Care" and "Infant Care" are Federal Bulletins. The other pamphlets, such as "Baby's Bed", the "Baby's Bath", "Dental Hygiene for Mother and Child", "The Mother-To-Be", "The Clock, the Scales and the Baby", "Maternity Clothing", "The Infant's Layette", "Bottle Feeding", "The Confinement Room and the Sterile Obstetric Package" and the folder, "Hush, The Unborn Baby Speaks", also the Mother's Diet Chart and the diet charts for the normal breast-fed baby were all written or compiled by myself and are based upon my own experience in practicing pediatrics and obstetrics in Oklahoma. This series of letters, with supplementary information, and also a layette pattern, seems to bring real joy to the mothers. To the less sophisticated they are prized as personal greetings and an expression of human interest in the recipient's ordeal and to the college woman as intelligent reminders to do the things she knows should be done at the time she should do them.

If you have not yet read the pamphlets written or compiled by myself I would appreciate your doing so that you might advise me of corrections, deletions or additions you consider should be made in the next issue.

The Director and the staff of nurses take advantage of as many opportunities as time will permit to talk to Mothers' Clubs, Farm Women's Clubs, Schools, etc.

The Mother-Child classes will be ready to offer to the public by July. The purpose of these is to emphasize the need of the heartiest cooperation of the patient with the physician in an effort to lower the high death rate from still births, prematurity, etc. Each demonstration, which demonstration will be given by the nurse, will be preceded by a brief lecture on an appropriate topic given by the local doctor if one is available. All the data, including statistics, will be furnished the doctor from the Bureau so the teaching will be uniform and the local physician relieved of any criticism of a desire to "toot his own horn." Following is a list of the lectures:

Section A. PREPARATION FOR MOTHERHOOD.

1. The Importance of Physical Examination.

2. The Danger Signals of Pregnancy.
3. Food for the Expectant and Nursing Mother.
4. Preparation for Confinement.
5. The Confinement.
6. The First Care of the Baby.

Section B. CARE OF THE CHILD.

1. Routine Day of a Well Baby.
2. Breast-Fed Baby—His First Year.
3. Bottle Feeding.
4. Common Contagious Diseases of Childhood.
5. Posture Development.
6. Dental Hygiene.

As mentioned above each lecture will be followed by an appropriate demonstration. *e. g.*, No. 1,

(a) Draping the patient for a full physical examination.

(b) A prenatal examination, including taking the temperature, counting the pulse, making a blood pressure reading and testing the urine for albumin.

The second lecture will be followed by a demonstration of the actual foods, grouped to form a balanced ration; maternity clothing by a full set of maternity clothing, etc.

The Child Care Classes for the young girls, are based upon the project outlined in Home Economics Bulletin No. 2 in the course in Child Care which is now a regular part of the Junior and Senior High School Curriculum in the Public Schools of Oklahoma. This project is as follows:

"Given a cross baby in the home, how can sister best aid mother to care for it?" The six lessons and demonstrations will cover the following:

1. The Baby's Layette.
2. The Baby's Bath.
3. The Baby's Routine Day.
4. Supplementary Food for the Normal Breast-Fed Baby to one year.
5. Bottle Feeding.
6. What to Do Till the Doctor Comes.

The child health conferences at which children of pre-school age are weighed, measured and examined, will continue as an educational feature, the intention being to gradually train the public to utilize their own family physicians for the periodic examinations of the youngsters and pay them for the service. There will always remain a small number in every community unable to pay. These could be cared for in conferences. The conferences held the past year have been quite illuminating. In

the haste with which these were organized, no special time could be given to the selection of the children, though in each instance the local papers, if any, carried the announcement that although all children under pre-schol age were welcome if not suffering from some acute illness, the malnourished and otherwise defective were preferred. In the final analysis the character of the children brought depended upon the point of view of the local women sponsoring the conferences. These varied from the prize one held in the little town of Choctaw, where the children brought averaged eight defects to the child, with no child having less than four, to another held in one of the best towns of the state where, I have been told, some of the mothers sent their babies with the maid and the chauffeur in the family limousine while the mothers played bridge; this later statement is probably an exaggeration. No careful, detailed study has yet been made of the data secured at these conferences but it seems that considerable disagreement exists among the examiners as to what constitutes a normal, pre-school age child. One physician leans heavily towards diseased tonsils, another to knock knee, another to bow legs—still another to prominent abdomen, and yet another would check up a whole flock of winged scapula. Just what is phimosis does not seem to be clear and flat-foot is a poser.

The average diet of the farmer's child seems to be bread, meat and potatoes, with lots and lots of gravy; that of the town child, sweets in abundance with extra helpings of candy in between meals. Eagle Brand babies are very common in some communities and wholly unknown in others. Such follow-up work as we have done shows marked improved hygienic care in practically all of the children followed. The number of corrections requiring a physician's, dentist's or oculist's attention usually varied directly with the financial standing of the parents. In some instances this was high, in others low.

And now a word about the Health Centers: The activities suggested for the health centers at Woodward and Alva included the following:

1. Pre-school Age Surveys.
2. Child Health Conferences.
3. Child Care Classes in the Schools.
4. Mother-Child Classes for Adults.

The pre-school age survey, besides getting a store of valuable information as re-

gards the number of children in the various groups under school age, their nationality, whether or not the birth had been registered, whether they were attended by a doctor, mid-wife or other attendant at birth, whether or not they had some means of reaching the health center for examination, etc., served to interest the local women of the community in child life in general as much information not asked for is obtained that arouses the human interest of those good women.

Both Woodward and Alva are doing a splendid piece of work along these lines; the local doctors in both instances have given generously of their time in making the examinations. The number of corrections of defects, I am told, is high.

When one stops to consider that in Oklahoma we have approximately 444,000 families, averaging 4.6 persons per family, therefore, approximately only 96,000 married women, and that last year 50,463 births were reported, the tremendous influence the obstetricians and the pediatricians might play in the future history of the state becomes apparent. This influence is not confined merely to the saving of life, but extends in every direction into the social, economic and moral life of the commonwealth. The point I am trying to make is best summed up in a quotation taken from the report of F. Truby King, the Director of the Child Welfare Bureau of New Zealand for the year 1923, to-wit:

"If women in general were rendered more fit for maternity, if instrumental deliveries were eliminated as far as possible, if infants were nourished by their mothers, and boys and girls were given a rational education, the main supplies of population for our asylums, hospitals, benevolent institutions, jails and slums would be cut off at the sources. Further, I do not hesitate to say that a very remarkable improvement would take place in the physical, mental and moral condition of the whole community."

PRINCIPLES IN THE MANAGEMENT OF TOXIC GOITRE*

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It is my opinion that the various types of goitre may be considered as varying de-

grees of the same or similiar processes. *All goitres are toxic*, or potentially so. It is a matter of degree only. The patient may be rapidly or slowly poisoned to death.

In considering the management of goitre it is not necessarily essential to make a differential diagnosis as to type, however desirable this refinement is from a scientific or prognostic viewpoint. The factors concerning us most are the same, whether we are dealing with the so-called toxic adenoma, exophthalmic, or colloid goitre. What we are interested in is the degree of toxemia, and the effect it is producing on distal vital organs.

For the sake of simplicity we may class all goitre under one combined title, and consider them wholly from the degree of toxemia. It is well known that the size and appearance of the gland bears practically no relation to the condition of the patient. In many of the most toxic cases, it is difficult to recognize any great change in the thyroid, while we have all seen many large colloid glands which were producing but very slight symptoms.

It is the amount of toxic material secreted that accounts for the symptoms, regardless of the size of the gland, or the type of the goitre. The pathological symptoms are due in reality to a physiological hyperactivity of the secreting properties of the gland, rather than to any degenerating, anatomical or infectious condition. Just what causes this condition we are as yet unable to say. But the physiological effect of the secreted thyrotoxine is about as well understood as that of any of our common drugs. It stimulates the potential energies, and produces a hyperactivity of all the functions of the body.

The first noticeable effect seems to be on the nervous system. All goitre patients complain of being nervous. This is an indefinite term, but is always present. It may exist in any degree, from being a little over-alert and "easily upset", to one of extreme excitability. Sometimes there is a slight tremor. And in the advanced stages there may be more or less mental instability.

The metabolic rate is increased. Every human cell is over-worked, causing it to require an excess of fuel, and to produce an increase in waste products. The heart is

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over-stimulated. It beats faster and harder than normal, and is increased by the slightest exertion or excitement.

There is a great loss of strength. These patients are ambitious to work, but are unable to sustain either physical or mental efforts for any period of time. Usually they have a good appetite and think they should be gaining in strength, but they are actually losing.

However, it is not essential to have all the symptoms present, to arrive at a diagnosis of goitre. Many of them are advanced symptoms and only occur late in the disease. Nervousness, rapid heart, loss of strength and lack of endurance, should be indication sufficient to lead to a careful study of the function of the thyroid. And, if no other cause can be found to account for the symptoms, at least a tentative diagnosis of Thyrotoxicosis may be entertained. However, practically all goitres coming under our observation at the present time have carried well developed symptoms for an indefinite period. Just as formerly, a tuberculous patient had to have the bug in his sputum, and appendicitis went to pus formation before they were seriously considered, so do we wait today for advanced lesions of goitre, before we consider surgery.

Statistics show that an exophthalmic goitre usually goes ten years before it is operated, and that the severe toxic symptoms are present eighteen months prior to operation. While the adenomata go approximately thirteen years, and severe symptoms are present about two years; this type being less active in developing the toxic features.

The toxic symptoms appear in cycles of from a few months to as many years. When the gland takes on a little hyperactivity an excess amount of secretion is poured into the circulation, thereby increasing all the symptoms for a period. Then it automatically subsides, but never completely returning to normal. Every cycle of hyperthyroidism through which a patient passes, renders permanent damage to the heart, liver, kidneys, and nervous system, making him a poorer surgical risk. Consequently, every month that we may shorten this period of toxemia, the likelihood for a cure is just that much more certain. In other words, the sooner we recognize a goitre, and institute surgical treatment, the greater per cent of satisfactory cures we will have.

The best medical opinions of today class goitre as a surgical condition, just as much so as appendicitis. However, this does not mean that it should be operated upon as soon as it comes under our observation. In fact the reverse is usually true in these days of late recognition.

Some fifteen years ago, when I began my surgical observations, the great majority of our appendicitis cases had gone to peritonitis before they reached us, and our chief concern was in the management of the secondary peritonitis, rather than the primary appendicitis. Fortunately, this is no longer true, except in a few small areas where the medical profession has failed to keep abreast with the times. But our goitre cases must still be divided into an *advanced, neglected group with visceral degeneration*, and the early or mild cases that have not reached this stage of involvement. Here, as in appendicitis, the management of the early cases is simple. They are operated early. The mortality is very low, and the results are uniformly good. While the neglected cases test our ingenuity to the utmost in directing them to a safe operable stage. Carrying them through the multiple surgical procedures, until the gland is finally removed, and the patient has passed through a long tedious course of convalescence.

More and more surgeons are realizing the importance of the pre-operative and post-operative care in these advanced cases, and until we fully realize the fact that the preparation and the after cure of the patient is of as much importance as the technical steps of the operation itself, our mortality and morbidity will be so unfavorable that our patients will justly continue to consider surgery only as a last resort, and we will have great difficulty in educating them to the benefit of early operation.

Many times, nowadays, the disease is so far advanced before the patient seeks surgical relief that they are unable to undergo even the slightest operative procedures. Therefore, we are called upon to seek other means by which we can lessen the degree of toxemia, before resorting to any form of surgical endeavor.

Of the remedies in use for this, the most essential one is *absolute rest in bed*. Just now we hear a great deal about iodine in the form of Lugals solution, and no doubt there is much good to come from it. However, its use is more valuable in the

prevention of the immediate post-operative reaction than in the preparation of these advanced cases of visceral degeneration, where we know it will require months and months of care and preparation to bring them to surgery. Nevertheless, it may be of benefit even in this class of cases. But, it must be remembered that iodine is capable of producing harm, and it should be administered with extreme care. And it should never be considered other than as a palliative remedy, and not a cure.

Radium and X-ray are the most effective and least harmful remedies we have in reducing the secretive powers of the gland, and I think it should be made use of as a preparatory agent in the preparation of every advanced case of thyrotoxicosis, and we will do well to administer two or three treatments and await results in those cases which we think might stand surgery, but where there exists an element of doubt.

The first strictly surgical procedure that should be resorted to in all cases of advanced thyrotoxicosis, is the ligation of one of the superior poles. This not only lessens the secretions, but it serves as a check on the patient's reaction to surgery. The amount of reaction provoked should determine whether we ligate the other pole, and await further improvement, or proceed with the removal of the gland within a short time.

The injection of boiling water and quinine solution are fully useful as adjuncts, and have been advocated as cures. But it has been very satisfactorily proven that they are of only temporary value, in so far as they destroy local areas, thereby lessening the secretions. But sooner or later the gland regenerates and again becomes toxic. The facts are, that most of the palliative remedies have been advocated from time to times as cures. But this has served only to confuse the minds of the profession and laity, alike, and has been largely responsible for the delay in accepting early surgery. So, we prefer to class all remedies as adjuncts, and limit their use to aids in lessening the secretions in neglected cases, to make for safer surgery.

No patient should be rejected on account of advanced symptoms, since many apparently hopeless cases are brought to a fairly safe operative stage by judicious management and judicious surgery. That is, by calling into play all the simpler remedies for reducing the toxemia, and eventually removing the gland as expeditiously as pos-

sible, under a light nitrous oxide-oxygen anaesthesia.

It is to be hoped the time is not very far distant when these cases will be recognized and operated early, before terminal symptoms appear, just as we are fast stamping out peritonitis by operating our appendices early. Terry says, "That the treatment of toxic goitre should be to remove it before it becomes toxic," and if this paper conveys the thought the writer wishes to impress, it will bear its part in stimulating a better understanding of the benefits to be derived by early thyroid surgery.

NERVOUS MECHANISM OF DIGESTION*

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There is an old saying that Dyspepsia begins in the head. This suggestion of a distant source of manifest symptomatology, I fear, is sometimes forgotten. Structural changes are sometimes the result rather than the cause of disease nor must we forget that what we have been pleased to call functional disease may have an unrecognized structural basis though not lying in the organ producing the evidence. Digestive disturbances without demonstrable local pathology are very common, occurring either as an annoying complication of a manifest disease elsewhere in the body or in an apparently otherwise healthy individual. The intimate relation of the organs through the sympathetic system (or Splanchnics) in one direction and the vagus in the other is for the most part responsible for this.

The innervation of the stomach and pancreas is practically identical so far as the extrinsic source lies. The intrinsic source in the stomach is from "Auerbach's" Plexes (in this we are not so much interested, in this paper, except to state that) this system of nerves supplies the lower end of the oesophagus, the stomach and the intestinal tract and is responsible for a unity or sequence of action of these three organs and produces peristalsis under certain conditions described and referred to by Cannon as the Myenteric reflex.

The Myenteric reflex is the production of a zone or ring of contraction at a given

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point, usually just proximal to the pylorus, with a relaxation of the muscles and a consequent ballooning below that point, there being a state of tonus, above this ring in direct relation to the intragastric pressure. By this means peristalsis is established. This is of the utmost importance, not only from the standpoint of digestion but for the consideration of symptoms when the stomach is acting out of harmony.

It has been experimentally shown that the vagi produce tonus in the stomach as in the œsophagus, this together with the intragastric pressure brought about by the presence of food makes possible the myenteric reflex. After this condition is established it may continue for a time even though the vagus influence be dismissed, as has been shown by Frank in severing the vagi.

The cardiac end of the stomach receives an inhibitory stimulus from the vagus, that is, the fundus of the stomach is relaxed to admit food, however, the motor inhibition of the stomach generally comes from the sympathetic system or (Splanchnics) having the opposite effect of the vagus. If these sympathetic nerves are cut with the vagus the stomach is able by its automatic action to continue its motor function for a time. If either the one or the other set be severed, the other being left, the motor function is much more embarrassed.

Two very interesting facts are thus demonstrated that the over stimulation or crippling of the vagus or sympathetic produces a definite digestive disturbance as to motility, also it enlightens us as to the gastric disturbance in abdominal irritation.

Several years ago Schiff was able to cut both vagi (in a dog) below the diaphragm without fatality. Following this Haidenhain Jurgens, Pavlov and others carried on some extensive studies on vagus influence on the gastric glands. It was found that severing both vagi below the recurrent laryngeal branches produced a definite effect on the gastric as well as the pancreatic secretion. Before severance and following a cessation of feeding the secretion, especially in the stomach gradually diminished to return on resumption of feeding. After cutting the nerves, as referred to, the secretion stopped almost immediately, when the section of the nerve was done in this manner no disturbance of the heart's action or respiration was observed and no evidence

of discomfort on the part of the subject so there can be no question as to the secretory effect of the vagus on the gastric glands, further, stimulating the cut end of the distal portion of the nerve brought about a flow of gastric juice as did feeding without stimulation of the nerve, but in neither case was the secretion equal to the amount produced by the two combined and too the proteolytic power of the gastric juice remained the same in either circumstances and irrespective of the amount secreted, demonstrating two things, that the vagus carries true secretory nerve fibres and not merely vaso-motor fibres and further that the vagus is not the only source of secretory stimulus. As to the pancreas, Kutreviskii found that stimulation of the sympathetic with induced current produced a slight secretion for a few minutes only, while stimulation mechanically brought forth, in a few seconds, a copious secretion which means probably that the sympathetic carries both vaso-constrictors and secretory fibres. Frank and Poplaskii working separately were able to separate fibres in the vagus having a stimulating action and others having an inhibitory action on the secretory glands of the pancreas. This however was not manifest in either bundle of fibres except when the duodenum was filled with Hydrochloric acid, proving beyond question that the most pronounced influence of pancreatic secretion comes from the stomach on the action of the H.C.L. glands. Hence it is evident that the vagus and sympathetic have a definite control over the gastric motility and that the sympathetic nerves carry vaso-motors and that secretory fibres run in both the sympathetic and vagus to both stomach and pancreas.

The position of certain plexuses in the abdomen, more or less independent in their make up, are quite important.

The coeliac is made up of branches from the external spinal nerve roots from the ninth dorsal to the fourth lumbar and connected with the vagus. The flexus is on a level with the ninth rib near the median line, in the epigastrium. It is intimately connected with three other plexuses of particular importance the ileocolic plexus lying in the angle between the ileum and the cæcum, the plexus mesentericus superior lying usually over the bifurcation of the aorta and the plexus mesentericus lying on the left side and corresponding to the McBurney point on the right.

It is important to remember that by means of the close relationship between these plexuses by nerve connection or anastomosis, evidence, as well as definite disturbance is transmitted from one organ in the abdomen to another. When we remember too that the vagus sends out branches to both the stomach (through the Epigastric plexes) and the intestines and further that the motility of the colon and stomach both depend on Auerbach's plexus we readily see how a motor disturbance of one produces a like disturbance of the other and why intestinal disturbance produces secretory disturbances of the stomach.

DETAILED NERVE SUPPLY OF STOMACH.

As early as 1852 Bidder and Schmidt observed that the mere sight of food calls forth a secretion of gastric juice in a dog. Recently Richet in his observations on a patient with a gastrostomy for a malignant obstruction of the oesophagus found an increase in gastric secretions on food, of certain types, being taken into the mouth. Pavlov was able to demonstrate this fact in detail with his oesophagotomized dogs, determining the variations in amounts of secretion for different types of foods and also that there is a variation in the proteolytic power of secretion for different foods. He found, too, that the sight and taste of food brings about, on the average, the secretion of approximately 35 per cent sufficient juice for the digestion of the particular food. Thus it is evident that because of this intricate mechanism the nervous system in general as well as any particular sort of irritation to the nervous system can influence the work of the digestive glands in the most diverse ways, also that the alimentary tract is endowed with no more general excitability, that is, it does not respond indifferently to every conceivable agency, but responds only to special conditions, varying in its different parts, because the vagus and sympathetic so markedly control the gastric and pancreatic functions and are so intimately associated with other organs it is not difficult to understand that in the first place definite gastric disease may have its origin as a perverted physiological function and due to disturbance pathologic or otherwise in the nervous system or a distant organ, second, that gastric disease may reversely originate disease in other parts of the body and third, that symptoms referable to the stomach may be the evidence merely of disease in another organ

and vice versa. For example, in a vagotonic condition we find gastric hyperacidity, brady-cardia, asthma, respiratory arrhythmia, sluggish bowel action and a high sugar tolerance. On the other hand the sympatheticotonic individuals have a rather rapid heart, a poor gastric secretion and are particularly sensitive to organotherapy.

It is obvious then that in the examination of a patient complaining of a stomach condition that a very careful study of the patient is essential and that the history and symptomatology in detail is most important in order to determine the possible influence or effect of other than digestive conditions, that in no disease of the body is the stomach to be neglected not only to the benefit of the patient for the disease in hand but for the future protection of the patient, and lastly it is very important that every case of digestive disorder be thoroughly investigated however trivial, not only to determine whether it be functional or pathologic but because by reasoning "backward" we are often able to detect other important conditions by the character of the digestive disturbance.

There has always been considerable argument as to whether pain or discomfort is in an organ itself or is referred from some distant point along the nerves, that is whether pain is physiological with or without a pathological basis. Certainly it is plain considering the nervous mechanism how we may and do get pain and other disturbances in one organ when another is diseased, *e. g.*, the beginning of peristalsis in the ascending colon is similar to that of the stomach (the myenteric reflex and produced by the same system, Auerbach's plexus) hence the disturbance of motility in the cæcum, as occurs in appendicitis, must disturb the function of the stomach in like manner with pain in the epigastrium and vomiting resulting, the degree of vomiting depending on the amount of intra-gastric pressure at the time of the attack.

Too because secretory nerves to the pancreas and stomach are in the vagus we may understand the phenomenon of glycosuria in some cases and in others gastric hypersecretion and chemical distress simulating gastric ulcer in Thyrotoxicosis, due to the irritating action of the thyroid condition on the vagus.

Gastric distress or pain, therefore must never be considered lightly and the diag-

nosis of "a little dyspepsia" must never be made as the evidence of disturbance though slight (due to a low pain threshold) may mean serious disease in the stomach or at some distant point.

CORRESPONDENCE—STATE INDUSTRIAL INSURANCE PRACTICE

Sand Springs, Okla., March 20, 1926.

Claude Thompson, M.D., Secretary,
Oklahoma State Medical Association,
Muskogee, Oklahoma.

Dear Dr. Thompson:

After reading Dr. McBride's letter in the March issue of The Journal we feel that there are many physicians who can heartily agree that it is time for the Oklahoma State Medical Association to appoint a standing committee on State Industrial Medicine and Surgery. Just recently we had a case with two fractured bones sent to us for treatment; he was taken to our local hospital. The Insurance Company sent an ambulance out with orders that he must go to another hospital and we must turn him over to their doctors or they would not pay the bills. We went on with case—will render bill and if they refuse to pay will put the matter up to the State Industrial Commissioner.

There surely should be some provision for the patient to have his family physician and be cared for in the local hospital if he desires.

Our opinion is that some of the physicians are largely to blame for this situation, especially surgeons who have charge of hospitals and are chief surgeons for certain insurance companies.

It is time for our State Association to do something, so that we may know just how to act when these cases arise.

Yours very truly,
C. E. Calhoun, M.D.,
B. J. Davis, M.D.

Shawnee, Okla., March 27, 1926.

Dr. Claude Thompson, Secretary,
Oklahoma State Medical Association,
Muskogee, Oklahoma.

Dear Doctor: I have just read with interest the letter of Dr. Earle D. McBride about Industrial Insurance. His complaints of bills reduced and patients sent to an appointee of the Company are well founded and should be read by every Doctor in the State. When he states that the

Insurance Agents "disregard the principles of ethics with which medical men govern their professional actions," he should have added that the Doctors who have taken the contracts have also disregarded these same principles. There is this difference: The insurance agent has only one thing to look after—to run his business with the smallest expense; while every doctor who is a member of a County Medical Society has pledged his word that he will abide by the constitution of the A. M. A.

The Constitution of the A. M. A., Sec. 2, page 19, Principles of Medical Ethics of the A. M. A., reads as follows: "It is unprofessional for a physician to dispose of his services under conditions that make it impossible to render adequate service to his patient or which interfere with reasonable competition among physicians of a community. To do this is detrimental to the public and to the individual physician and lowers the dignity of the profession."

When a doctor takes a contract to do Industrial Practice he agrees to do this practice in open violation of the principles of ethics of the A. M. A. It is impossible to avoid either doing less than adequate service or interfering with competition.

Now what is the remedy? To try to stop all contract practice seems impossible. We find a large number of our medical friends who are surgeons for some industrial plant or corporation and who see no harm in contract practice if carried out in the proper spirit and he will argue and contend that his particular contract does not violate medical ethics.

In Pottawatomie county we are considering the following plan: We will notify all employers of labor that the society is opposed to contract practice. That as a society we stand back of the qualifications of every member of our county society and that when one of their employees need medical attention that as nearly as possible they call the doctor of the sick man's choice. No doctor wants to practice for a patient who desires some other doctor.

The Insurance companies want only a fair deal. If we can show them that we will give adequate service at a fair price, they will cooperate with us. But we must first be true to our own profession before we can preach the Gospel of good conduct to others.

Yours respectfully,
T. D. ROWLAND, M.D.

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Barnes Building, Muskogee, Okla.

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Palace Building, Tulsa, Okla.

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Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive The Journal should call for immediate notification of the editor, Barnes Building, Muskogee, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes in address, birth, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A., will not be accepted.

Advertising rates will be supplied on application.

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EDITORIAL

ON MERCUROCHROME— 220 SOLUBLE.

Since the origination of Mercurochrome by Young, his claim of very high relative bactericidal powers, as well as non-irritant qualities in the treatment of urological conditions has been amply sustained. Since that time too, the application of the chemical as a therapeutic measure has gradually increased until now it is used in a multitude of conditions. It has largely supplanted iodine as a surgical dressing, and has come to be used intravenously in a number

of conditions, notably in the treatment of profound sepsis, especially puerperal, and in the treatment of selected cases of tuberculous infections. For a time all reports as to its use were enthusiastically in its favor. However, St. George¹, Chief Medical Examiner's Department, New York, recently reported a series of autopsy reports, after the use of mercurochrome, which should be carefully considered and kept in mind when the use of this drug is contemplated in certain conditions. The report embraces the findings in five cases, all of which showed strikingly similar findings at postmortem. The lesions were those of acute nephritis, profound involvement of the colon, amounting to large sloughs, as well as other involvements in remote locations. Chemical analysis showed mercury in even larger amounts than were found in mercuric chlorid poisonings. St. George concludes that locally it is a very good antiseptic; systemically, it may possibly be of value in selected cases when properly administered and controlled, but that its indiscriminate use in such conditions as acute rheumatic fever or malaria, should not be countenanced. Its dangers are constantly to be borne in mind.

In direct opposition to this, Dr. Hugh Young² is quoted in a summary as follows:

"Experimental and clinical work has convinced Young that mercurochrome-220 soluble may be used intravenously without fear of serious or continuous damage to the kidneys. He feels so sure of this position that he has not hesitated to give mercurochrome intravenously even when albumin, casts, pus cells and bacteria have been present in large numbers in the urine."

These very diverse conclusions are reproduced for the benefit of those interested.

¹Jour. A. M. A., December 26, 1925
²Jour. of Urology, January, 1926

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THE ANNUAL MEETING, JUNE 22, 23, 24.

For the first time in our history, force of circumstances has caused us to prolong the date of our Annual Session far into the month of June. For the information of those who may not understand the reasons for this departure they are advised that the original date in May had to be abandoned for the reason that the President is called to military duty in Colorado at that time. When it was sought to ad-

vance the date of our meeting a few days to meet that situation it was found that other organizations had scheduled meetings for that date and that plan had to be abandoned. As many other men prominent in Association work have similar orders for military duty, which dates reached well through May and into June, it was found that the date selected was the only one available. At that, the date selected gives your Secretary barely a week to serve his assignment and return to Oklahoma for the Annual Session.

Perhaps it is just as well that the date had to be postponed, for in making tentative selection of the dates originally it was entirely overlooked that the A.M.A. meeting in Dallas late in April would very likely seriously detract from a good attendance at Oklahoma City, if the meeting was held immediately following. It was the general opinion of the informed that the Oklahoma City attendance would suffer if the meeting was held too close to the Dallas meeting,

CANCER AND THE INTERNIST

Under the title "Gynecological Diseases of Special Interest to the Internist", Dr. H. S. Crossen, St. Louis, before the Eighth Annual Clinical Session of American Congress of Internal Medicine, speaking on the insidiousness of uterine cancer, said, "Long ago I became so impressed with the insidiousness of pelvic carcinoma, seeing so many advanced cases with symptoms of only a few weeks' duration, that I vowed to miss no opportunity to call attention to the subject. All that any of us can do in this direction is so little compared with what needs to be done that everyone should give serious thought as to how the individual may do his best to bring to light these unsuspected cases of malignant disease."

Fully appreciating the obstacles and objections to be met and overcome by such procedure, nevertheless, Dr. Crossen believes that every woman approaching the menopause should have a thorough pelvic examination. Appreciating also the delicate position of the surgeon or gynecologist who urges such radical departure from time honored custom, or neglect of examination at all except when forced by grave symptoms, he believes and urges the internist to cooperate in such work by making it routine.

This is the correct attitude. By no other means may potential or early cancer be detected. No one is in better position than the internist and the family physician to do effective, life saving work along these lines. Despite so-called modern advances, improvement in technic, treatment, X-ray, radium, and the most skilled operative procedures, cancer still stands as a great destroyer. Much of its death dealing capacity may be lessened and prevented by timely intervention and by no other means may the problem be properly combatted.

THE DALLAS MEETING OF THE A. M. A.

Again we take occasion to call attention to the splendid opportunity the Oklahoma physician has presented to him to attend a meeting of the largest medical organization of the world, the American Medical Association, which meets in Dallas April 19 to 23. The program already issued in a recent issue of the Journal of the A. M. A., not only does not fall short of that offered in the largest cities of the country, but probably excels many that have been held heretofore. The scientific exhibits cover every field of scientific research and endeavor of interest to the physician. There is enough of interest in this phase alone to hold the attention of any attendant for the period of the meeting. Nothing has been left undone to make the sections interesting, and they, too, cover such a wide range of matter that anyone may find that in which he is most interested in medicine.

Those of us now living in Oklahoma will probably never have a like opportunity from the standpoint of convenience to attend a medical meeting of such magnitude. Dallas is so easily accessible that everyone should avail himself of the opportunity and attend the meeting.

Editorial Notes—Personal and General

DR. D. S. DOWNEY, Chickasha, attended the funeral recently of his mother, Mrs. Mary Downey, at Plattsburg, Missouri.

TULSA ACADEMY OF OPHTHALMOLOGY and OTO-LARYNGOLOGY at their annual election March 15th, chose the following officers: Dr. J. Franklin Gorrell, president; Dr. Chas. H. Haralson, vice-president, and Dr. W. A. Huber, secretary-treasurer.

DR. F. L. NELSON, formerly of Okmulgee, has moved to Tulsa.

DR. and MRS. T. O. CRAWFORD, Dewey, recently made an auto trip to St. Louis.

DR. HARPER WRIGHT, Grandfield, was elected president of the State Board of Medical Examiners, at their meeting in Oklahoma City recently.

DR. J. M. POSTELLE, Oklahoma City, has associated with him recently Dr. W. A. Lackey, both conducting the Postelle-Lackey Clinic at Oklahoma City.

MUSKOGEE COUNTY MEDICAL SOCIETY heard an address from Judge O. H. Searcy, Muskogee, March 22nd, on "The Legal Relation of A Physician to His Patient."

OKLAHOMA ASTHMA and HAY FEVER LABORATORY, Oklahoma City, conducted by Dr. Ray M. Balyeat, has been renamed the Balyeat Hay Fever and Asthma Clinic.

STEPHENS COUNTY MEDICAL SOCIETY met March 4th at Duncan at which several interesting cases were reported, with a paper on Post-Natal Care of Obstetrical Cases.

DR. G. H. WALLACE, Duncan, who was sued for \$20,000 for alleged malpractice in an operation for appendicitis, won the suit before a jury in the district court, the plaintiff then filing a pauper's claim, which forces the county to bear the expense of the suit.

WASHINGTON COUNTY MEDICAL SOCIETY at a meeting March 9th at Bartlesville, passed a resolution condemning the action of Mayor F. N. Buck, in allowing the removal of a small-pox quarantine sign from a dwelling, and the substitution therefor of a measles quarantine sign, and in permitting the small-pox patient at large in the community.

AMERICAN BOARD OF OTOLARYNGOLOGY has arranged for two examinations during the month of April as follows: St. Paul's Sanitarium, Dallas, Texas, Monday, April 19th, at 9 A. M., and Stanford University Medical School, Clay and Webster Streets, San Francisco, California, April 27th, at 9 A. M. Applications may be secured from the Secretary, Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Missouri.

MUSKOGEE COUNTY MEDICAL SOCIETY held an open meeting March 9th, at the Presbyterian Church, Muskogee, in conformity to the plans of the Publicity Committee of the State Association. Doubts were presented about the possibility of getting out an audience worth while, but as a result of intensive publicity, the church was crowded. Dr. LeRoy Long, Dean of the School of Medicine, University of Oklahoma, gave the address: "The Relations of Scientific Medicine to the Community". As a result of this meeting, the community has a higher appreciation and a sympathetic understanding of the aims and accomplishments of the profession.

WASHITA COUNTY MEDICAL SOCIETY conducted a cancer clinic at Cordell, March 17th, at which 32 cancer patients presented themselves. Dr. E. S. Lain, Oklahoma City, conducted the clinic.

DR. W. A. FOWLER, Oklahoma City, is State Chairman for Oklahoma, representing the American Association of Obstetricians, Gynecologists and Abdominal Surgeons. It is the purpose of this Association, through Dr. Fowler, to organize a corps of speakers of ability to give talks on pre-natal care and maternal welfare. Any county society desirous of taking up this work should communicate with Dr. Fowler.

THE STATE BOARD OF MEDICAL EXAMINERS is to have its constitutionality questioned by the injunction route, if a Pottawatomie county case materializes according to the plans of Attorney Gustave Erickson, Oklahoma City. The case will be brought along the same lines of reasoning invoked in the case of the State Board of Dental Examiners, wherein the Criminal Court of Appeals decided adversely to the Dental Board. It is more that likely, however, that the State Supreme Court, the proper tribunal, will eventually decide

DOCTOR JOHN T. SLOVER

Dr. J. T. Slover, Sulphur, died at his home after a lingering illness Monday, March 1st. Dr. Slover located in Sulphur in 1900, moving from his native state of Texas. Born in Cherokee county, Texas, August 23, 1871, he soon after moved to Collin county with his parents where his boyhood was spent. He graduated from Grayson College in 1891, teaching school for several years after that and serving on Texas State Board of Examiners from 1895 to 1898. Entering the Dallas Medical College in 1899, he graduated from that school in 1904. In November, 1897, he was married at Bonham, Texas, to Miss Lillie Julian. His wife and a son Joseph T. Slover, Assistant Postmaster at Sulphur, and Mrs. David Collins, Boswell, are his immediate survivors. He also has two brothers practicing medicine in Oklahoma, Dr. G. W. Slover, Sulphur, and Dr. Ben Slover, of Blanchard. Dr. Slover held many positions of trust in Murray county. He served on the City Council of Sulphur for many years, and was physician in charge of the State School for the deaf for many years. For more than ten years he was Councillor for the 4th District, and had been a member of the State Medical Association for 18 years. He was affiliated with the Masonic and Odd Fellow organizations and was a charter member of the Sulphur Kiwanis club. Masonic services were conducted at the cemetery, the funeral obsequies are said to have been the most impressive ever known in Murray county. Dr. Slover leaves a host of friends in the State Medical profession. Loyalty to his friends was his daily creed. Sulphur and Murray county suffered a severe loss in his passing to the Great Beyond.

all these matters and clarify the atmosphere surrounding all these boards. Professional men and many others interested will welcome a proper final disposition of the cases.

WASHITA COUNTY MEDICAL SOCIETY met at Cordell, March 17th; program as follows: "Fake Cancer Cures," Dr. J. M. Bonham, Hobart, discussion opened by Dr. John Reid, Hobart; "Radium," Dr. A. H. Bungardt, Cordell; "X-Ray," Dr. Ellis Lamb, Clinton, discussion opened by Dr. Sullivan, Colony. Cancer Clinic, Dr. E. S. Lain, Oklahoma City, assisted by Mrs. Ellison, Oklahoma City, followed by a banquet at 6 P. M. Public Health program at the City Hall, Dr. E. S. Lain the principal speaker of the evening. The clinic was well attended by physicians in this part of the state. A very large and interesting skin and cancer clinic was presented. The Public Health lecture was very interesting, and well attended.

DOCTOR GEORGE A. WATERS.

Dr. G. A. Waters, for many years head of the State Reformatory at Granite, died February 9th, after a brief illness. Dr. Waters was born at Staunton, Kansas, December 12th, 1865. He was educated in the University of Arkansas, graduating from the Medical Department of that institution April 6th, 1892. He practiced at Baxter, Arkansas, Vinita, Cleveland and Pawnee, which was his official residence at the time of his death. Interment was had under auspices of the Masons, Dr. Waters being a member of the Shrine.

The work of Dr. Waters typifies the fact that physicians often make markedly successful executives of our State institutions, for the record of Dr. Waters' success stands as preeminent in the history of Oklahoma institutions. His personality extended to his wards to such an extent that he held their respect, obedience and esteem to a remarkable degree. He made individual study of the varied peculiarities and characteristics of his charges and then sought and found means to eradicate their weaknesses as far as he could. In passing he leaves a monument to his memory and work more lasting and beneficial than if carved in marble. Naturally he leaves a wide circle of friends and admirers to mourn his departure.

BOOK REVIEWS

Nephritis, by Herman Elwyn, M.D., Assistant Visiting Physician, Gouverneur Hospital, New York; 8vo. of 347 pages, New York, the MacMillan Company, 1926, cloth \$5.00 net.

A monograph well worth while. It is lucid and short enough to be interesting to the busy doctor and yet long enough to contain all that is pertinent to the subject.

The style is commendable and the arrangement orderly and in definite sequence throughout. After a preliminary introduction of Physiology, Renal Insufficiency, Hypertension, Uremia, including all the diagnostic tests, the newest classification of Nephritis is taken up. The various Nephritides are presented as to pathological anatomy and physiology, etiology, pathogenesis, symptoms, diagnosis, courses, termination and treatment. A new departure is the correlation of the clinical manifestations and the pathological anatomy and physiology. A rather convincing new view on the cause of Nephritis of pregnancy is hypothesized. The important chapter on arterio-sclerosis is excellently handled.

Abdominal Operations, by Sir Berkeley Moynihan, K.C.M.G., C.B. Leeds, London, England. Fourth edition, entirely reset and enlarged. Two octavo volumes totaling 1217 pages, with 470 illustrations, 10 in colors. Philadelphia and London: W. B. Saunders Company, 1926. Cloth, \$20 net.

Ten years have elapsed since the last edition of this justly famous work on abdominal surgery has been given the press. In that time many changes and advances have occurred. These volumes take into consideration the worth while achievements and note them in extenso. It is said that Sir Berkeley Moynihan stands with that list of great surgeons who most thoroughly and particularly describe technique, believing that to operative skill more than any other factor is due the success of an operation. This work begins with preliminary preparations and sterilization, then considers technique, complications and sequelæ and after-treatment. Thousands of cases from the author's rich experience are marshalled to show the complications which may follow. Not only is his own wide experience placed before the reader, but notations from the work of other great authorities are voluminous and to the point. Each volume consists of 27 chapters, both fully and beautifully illustrated, many of the illustrations depicting very unusual and rare operative procedures.

Simplified Nursing, by Florence Dakin, R.N., Inspector of Schools of Nursing, State of New Jersey, illustrated, cloth, 499 pages, 1925. J. B. Lippincott Company, Philadelphia.

The object of this work is to present the rudiments of nursing in a simple, definite form, technically correct. The meth-

ods set forth may be easily, safely and accurately carried out in the home by the nurse, mother, wife or member of the family. It is well adapted for use in instruction of High School classes in Home Nursing. The matter is presented in the form of lessons following a general plan of "Definition", "Explanation", and "Instruction", with the addition of "Caution", "Safe-guard" and "Note" where necessary. It is a well ordered, practical work and will be found of interest to students and all interested in the art of nursing.

Sixty Years In Medical Harness, by Charles Beneulyn Johnson, M.D., introduced by Victor Robinson, M.D., \$3.00 postpaid, Volume I of The Library of Medical History, published by Medical Life Press, 12 Mt. Morris Pk. West, New York, N. Y.

This is a narrative of the life of an earnest physician who had the good fortune to see the important changes and advances in medicine and surgery from the sixties to the present time. His experience began as a young Union Soldier, in hospital wards, near the field of battle, struggled through years of attempts to acquire a medical education in the face of adversity. It intimately includes personal acquaintance with many, now in the Great Beyond, then and now recognized as among the "Great" in medicine. It records Dr. John B. Murphy's statement that Dr. Moses Gunn was the most skilful operator he had ever seen; Nathan S. Davis' strictures and criticisms of thermometers and the "Germ Theory"; remembers when Dr. John C. Warren, Boston, performed the first major operation under chloroform anesthesia; the controversy over the infectiousness of puerperal infections; the grouping for control of diphtheria and the gradual emergence of the causation of typhoid from obscurity to light. Incidentally, he heard Henry Ward Beecher deliver an oration on "Wastes and Burdens of Society", when Mr. Beecher, discussing the death of a child from diphtheria, when its Christian mother attributed the tragedy to a dispensation of Providence, exclaimed, "A Dispensation of Providence! Why it was nothing in the world but rotten cabbage and turnips in the cellar."

The author still lives to see the fruition of his efforts culminate in the erection and operation of a model County Tuberculosis Sanitarium in Campaign County, Illinois. His story is most entertaining and an inspiration to all who may read it.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M. D.
717 North Robinson St., Oklahoma City

HOW TO MAKE PLASTER IMPRESSIONS FOR WHITMAN BRACES.

Mixing Plaster.

Use the best grade of dental plaster. It may be obtained from any dental supply house. For the average foot use about three-fourths of a pint of water and two pints of plaster. Put the water in a pan or pitcher first, and then shake plaster onto surface of water. Stir until it begins to set. One should have two or three vessels and large spoons so that no time will be lost in having to clean them.

Position of Foot.

With the patient seated in an ordinary chair, a stool about 12 inches high on which to place the foot is used. A small pillow lies on top of the stool and over this several thicknesses of newspaper. The pillow prevents pressure and distortion of the outer border of the heel when lying on the stool. Powder the feet.

Pour the plaster obliquely across the paper on the stool, about the length of the foot, and in line with the position in which the foot will be placed. If it is patient's right foot, flex the knee and place the outer side of the foot into plaster keeping foot almost at a right angle with the leg and foot in straight line with leg. Work the plaster up around the foot and heel to about half its width, smoothing the edge. Now powder foot and edges thickly with talcum. The next pan of plaster covers the remainder of the foot. It is smoothed to even thickness. When plaster is set, the top shell is pried loose and the foot lifted from the bottom half.

Making Model.

The two halves of the impression are well powdered or greased and placed together in original position. A towel or newspaper is placed over the ends to cover openings and twine wrapped tightly about the two halves. Mix plaster in proportion as previously mentioned. It usually requires two pints of water and four of plaster to fill each impression. Pour while still thin so it will completely fill the cavity. Let set thirty minutes. Break off outer shells and you have the exact model of the foot.

Correction of Arch.

The arches of the cast may now be carved out to the amount of correction you think patient can stand the first time. Mark the outline of the brace with an indelible pencil so that the brace-maker will know the type of brace desired.

Metatarsal Impression.

Where metatarsal correction only is desired, the foot can be placed flat down in the plaster. The plaster is moulded well up about the sides of the foot and heel, leaving sufficient space to remove the foot.

The mould is powdered and filled with plaster mixed as previously described. After removing the mould, carve out the desired correction back of the metatarsal heads and mark the outline of brace with an indelible pencil.

ACTION OF PERIVASCULAR SYMPATHECTOMY IN EVOLUTION OF FRACTURES.

Mario Mairano. *Archivio di Optopedia*, Vol. XLI, 1925, P. 36.

Kappis, in 1923, in a case of fracture of the femur with delayed union, performed a sympathectomy of the femoral artery and obtained complete cure in six weeks; Heymann in 1924 successfully treated an osteoporosis of the foot; Scalone reports solid callus in a fracture of the humerus with osteogenesis imperfecta. Mairano, in order to see how this method acts in the evolution and acceleration of the callus, undertook an experimental research in dogs.

In conclusion he states:

1. The reaction and proliferative process in the vicinity of the periosteum and endosteum begins early and is very active.
2. The blood supplies of cartilaginous callus appear earlier and are numerous.
3. Ossification of the fibrocartilaginous tissue starts and ends hastily.
4. The absorption and rarefaction of the new bone begins very early.

TUBERCULOSIS

Edited by L. J. Moorman, M.D.
912 Medical Arts Bldg., Oklahoma City

Oxygen Inflation of the Peritoneal Cavity in Exudative Tuberculous Peritonitis. A. M. A. Jour., Feb. 27, 1926. A. L. Garbat, M. D., New York.

The author states that the treatment of exudative form of tuberculous peritonitis by abdominal puncture with evacuation of fluid and insufflation with oxygen, is much more simple than laparotomy, and adds another case to those already reported.

Case Report: R. D., male, aged 40, negative family history, began to have fever of 101 in evening, malaise and slight headache, loss of weight, developed a mild unproductive cough and profuse night sweats. Examination showed dullness in both bases, and X-ray revealed increased density of left apex with bronchial thickening throughout. Repeated blood cultures and Widal tests were negative. Blood counts showed leukopenia of about 5,000, with normal differential count.

Conditions gradually became worse and seven weeks after onset pleuritic exudate developed in right lung, a specimen of which was sterile and showed 98 per cent lymphocytes. About this time ascites developed interfering with respiration. The abdomen was punctured with a trocar and 3,000 cc. of clear yellow fluid removed and oxygen injected through the trocar until the abdomen was distended. The general condition of the patient began to improve, appetite and weight increased and the fluid in chest and abdomen was absorbed. Six months later the patient was apparently well.

The author comments on the success of other men using this method, and concludes that the treatment of that form of tuberculous peritonitis associated with ascites, by abdominal puncture and insufflation with oxygen, is a well recognized

and beneficial form of therapy and should be undertaken in preference to the usually advised laparotomy.

The Injection of the Superior Laryngeal Nerve With Alcohol for the Relief of Pain in Laryngeal Tuberculosis. George I. Swetlow. *The American Review of Tuberculosis*. November, 1925.

Laryngeal tuberculosis is so frequent and the pain so commonly associated with it so severe that any measure of relief is important even though it does not mean a cure of the condition. Various procedures have been tried with either bad results or very temporary relief as a rule. Injection of the superior laryngeal nerve with alcohol was tried with good results in this series of 13 cases, the freedom from pain lasting from 22 to 45 days. It is indicated only in clear cut cases of laryngeal tuberculosis as it is useless in pharyngeal involvements and in cases of difficult swallowing not due to laryngeal pain. The operation is without danger and practically painless—the motor difficulty in swallowing usually clears up in a few days and there is little febrile action, so it may easily be repeated whenever necessary.

Artificial Pneumothorax. A Plea for its Wider Application in the Treatment of Pulmonary Tuberculosis. I. D. Bronfin, E. Nelson and J. Zarit. *The American Review of Tuberculosis*, November, 1925.

Sixty-one per cent of the patients treated at the Sanatorium of the Jewish Consumptives' Relief Society in the last twenty years have had previous sanatorium treatment. This fact leads to the belief that general rest alone is not adequate in many cases, and that artificial pneumothorax should be applied much earlier than is customary since so many apparently quiescent cases are in reality progressing unfavorably.

A study of the 143 cases treated with artificial pneumothorax at this sanatorium during the last five years shows that not only are the percentages of recovery higher when treatment is started early in the disease but that the incidence of complications such as effusions and pulmonary perforations and the percentages of poor mechanical results are higher in old cases—the longer the duration of illness the poorer the results.

EYE, EAR, NOSE and THROAT

Edited by Jas. C. Braswell, M. D.
726 Mayo Bldg., Tulsa

Operative Treatment of the Lachrymal Sac. Pooley, G. H.: *Proc. Roy. Soc. Med.*, Lond., 1925, xviii, Sect. Ophth., 47.

The author describes a quick operative method for the relief of dacryocystitis. The time required for the operation is only from five to ten minutes. An incision is made into the lachrymal sac through the skin, the epithelium of the sac and nasal duct is scraped out, and opening is made through the lachrymal and superior maxillary bones into the nose, and the lachrymo-ethmoidal cells are scraped out. A plug of catgut is then placed in the open-

ing made from the sac into the nose and the external wound closed.

In the sixty cases in which this operation was performed the results on the whole were encouraging. Of the two deaths in the series, one was due to myocarditis during recovery from the anesthetic and one to meningitis.

Neoplasms of the Choroid. Knight, M. S.: *Am. J. Ophth.*, 1925, 3 s. viii, 791.

On the hypothesis that various types of carcinomata arise from epithelium and that tumors ranging from a fibromata to the various types of sarcomata arise from the connective tissue, a study of the primary tumors of the choroid which is usually considered a connective tissue structure would be expected to include examples of most, if not all, of the varieties of neoplasms which might arise in other connective tissue structures of the body. Many names have been given to tumors of the choroid. Fuch describes fourteen varieties of sarcomata, while Parsons refers only to those containing melanin.

In a previous article the author stated that pigmented tumors are probably not sarcomata but tumors of ectodermal origin. There seems to be considerable confusion regarding the classification of these neoplasms. The author prefers to call sarcomata of the choroid "malignant melanomata".

In about 200 eyes examined microscopically, Knight found two rare tumors, haemangioma and plexiform neuroma. Most of the haemangiomas reported in the literature were associated with congenital "port wine" naevi of the lids and the same side of the face.

A brief account is given of cases of plexiform neuroma of the choroid seen by Parsons, Sachsaler, Snell, Collins, Weinstein, and others.

Knight reports a case and discusses the physical and pathological findings.

part of the technic and cannot be disregarded except at the expense of delicacy.

3. In Table II are gathered the various conditions other than syphilis in which non-specific reactions have heretofore been obtained and which were investigated by the Kolmer test. Large series of these conditions are neither easily nor rapidly obtained for obvious reasons; nevertheless, the total number possess a definite significance and indicates that false positive reactions are extremely rare with the Kolmer technic, if, indeed, they occur at all.

4. The conclusion is warranted that when a positive reaction is obtained with Kolmer's test in the face of discordant or absent clinical data, the burden of proof rests upon the clinician and a thorough, exhaustive, and meticulous search for clinical evidence of syphilis is indicated.

5. There is a remarkable unanimity of opinion among the investigators reporting as to the freedom of the Kolmer test from false positive reactions.

6. So overwhelming is the evidence of the specificity of the Kolmer test that when clinical opinion disagrees it must be taken into consideration that clinical evidence and clinical judgment may sometimes be in error.

7. The delicacy of the Kolmer test is well shown in the results obtained with it in varying stages of syphilis tested under varying conditions. The arbitrary period after the appearance of the primary lesion when the complement-fixation reaction may be expected to become positive has been set at from twenty to thirty days. It is interesting to note in view of this fact, and as indicative of the delicacy of the technic, that positive reactions—fixation occurring in more than one tube—have been reported as early as three days (Irvine and Stern) and four days (Kilduffe) after the appearance of the chancre.

8. The fact that false negative reactions occur in relatively small numbers is an efficient rebuttal of the fear that the test might be too delicate. In view of these results and also of the specificity of the positive reactions, prior absorption of the natural hemolysins may be advisable.

9. The conformity of the Kolmer test to the clinical requirement in a high degree is specifically commented upon by many workers and it is fair to state that in this respect the method again far surpasses all others.

10. There were no adverse reports in the series under consideration, all workers agreeing that the method was sensitive, reliable, did not give false positives and but few anticomplementary reactions and that there was a high percentage of agreement with the clinical findings.

There are only two definite criticisms: (1) The occurrence of a definite number of false negative reactions; and (2) The fact that the Kolmer method requires more time, more tubes, and a little more labor.

The first of these is valid and demands study and has already been referred to, paragraph 8.

It is difficult to believe, however, that any serologist would seriously urge as a valid objection to the adoption of an efficient, superior and specific test the fact that it was a little more time consuming or a little more laborious. It is much more likely and easier to believe that this objection is really an indirect expression of a reluctance to cast aside a familiar method for a new one; cer-

BACTERIOLOGY and PATHOLOGY

Edited by Wm. H. Bailey, A.B. M.D.
Wesley Hospital, Oklahoma City

Journal of Lab. and Clin. Medicine. Feb., 1926.

Four of a series of seven articles by separate authors that were grouped together for the purpose of discussion were on the relative merits of the Kolmer Complement Fixation Test and the Kahn Precipitation Test for Syphilis.

The summary and conclusions alone of the different authors are given without any reference to the details in the articles.

Dr. Robert A. Kilduffe, Atlantic City, New Jersey. "The Present Status of Kolmer's Complement-Fixation Test."

1. It cannot be too strongly emphasized that to obtain the excellent results possible with the Kolmer technic, "It must be used exactly as described by the author, to the minutest detail and that deviations, no matter how apparently minor, will be reflected in a diminution of the sensitivity and delicacy of the test."

2. The overnight period of primary incubation, therefore, is a valuable, integral, and important

tainly an objection based upon such grounds would be difficult and embarrassing to uphold.

Drs. Robert G. Owen and H. E. Cope, Detroit, Mich. "Comparison of Kahn's Precipitation Test and Kolmer's Complement-Fixation Test."

Summary:

Examining 1600 sera we obtained a practical check in 93.8 per cent of the cases.

The divergence between the two tests lies almost wholly among the treated cases.

The Kahn precipitation test furnishes an ideal check for the Wassermann reaction and will "pick up" a certain small percentage of positive results which may be missed by the older method. On the other hand, certain cases may show a positive Wassermann reaction and negative Kahn.

To obtain the greatest accuracy possible all sera should be subjected to both the Kahn and Wassermann methods and where the results differ radically further study of the case is indicated.

Dr. A. S. Giordano, South Bend, Indiana. "The Kahn Precipitin Test as Compared with the Kolmer Complement-Fixation Test."

Summary:

In summing up, it is evident that the two tests run parallel in about 96 per cent of the sera. Both tests occasionally render a false negative which is usually picked up by one or the other when the two tests are run parallel. When we consider that antigens vary in polyvalence, this discrepancy is to be expected by any two tests employing different antigens. The Kahn test, however, has several points of advantage, namely, it excludes the hemolytic system which does away with the necessity of expensive equipment, so that the test is available to small institutions maintaining a moderately equipped laboratory; anti-complementary reactions are eliminated and may in the future solve the problems associated with this phenomenon; and lastly, it can be utilized to a great advantage in testing donors for emergency transfusions. One disadvantage of the Kahn test, in my experience, has been the reading of the weakly positive sera. These are often difficult to interpret and on that account I have never felt secure in reporting a weakly positive Kahn unless I could check it with a complement-fixation test. On the whole, I believe that the Kahn test is a valuable addition to the diagnostic laboratory. It is an excellent check on the complement-fixation test because of its accuracy, simplicity in technic, rapidly in performance and inexpensiveness.

"Clinical Study of Kahn Precipitation Test and Kolmer Complement-Fixation Test." Robert Lee Kelly, M.D., Philadelphia, Pa.

Summary:

In this series of cases there is no convincing evidence that a positive occurred with the Kahn or the Kolmer test which was inconsistent with clinical or other serologic findings.

The present study shows a remarkable degree of harmony between the outcome of the Kahn precipitation test and the Kolmer complement-fixation test, and indicates the high degree of sensitivity and specificity common to both. It may not be essential to carry out both tests routinely, but

in doubtful cases both should be performed as they shed a useful complementary light upon each other.

UROLOGY and SYPHILOLOGY

Edited by Rex Bolend, B.S., M.D.
1010 Medical Arts Building, Oklahoma City.

THE KIDNEYS IN CASES TREATED WITH BISMUTH

Dr. A. Fischer, Vienna, Austria, examined the kidneys of 123 syphilitics treated with bismuth alone and with bismuth in combination with arsphenamine. Each case was examined before and during treatment, and some after treatment.

The urinary sediment findings accorded with those obtained by other investigators. The author observed elimination of granulation cells, cylinders, fatty or intact kidney epithelia, and almost total absence of albuminuria. These findings indicate the existence of a mild toxic nephrosis, characterized by a fatty hyalin or parenchymatous degeneration of the kidneys. There was also irritation of the urinary passages.

The author divides sediment disorders into four groups according to the quantity of cells in the sediment.

As the table indicates, 88 of the 102 cases showed injuries, the majority of which belong to class three and four. Of the remaining 21, treated with bismuth intravenously, injuries resulted in eight. The smaller proportion of sediment abnormality after intravenous injections was due not to the route of administration but to the lesser quantity of bismuth administered.

Sediment disturbances were not accompanied by any clinical symptoms. And what is still more unusual, tests for kidney function were generally negative. Nor was there any coincidence between sediment abnormality and injury to the mucous membrane of the mouth.

Traces of albuminuria were observed in 11 out of 96 cases. In one, treatment had to be suspended because of the persistence of the albuminuria, and in another, in whom transitory albuminuria had existed prior to the administration of bismuth, treatment caused a new flare up of the nephritis.

In order to ascertain to what extent high dosage is responsible for kidney injury, the author doubled the doses in all cases. Deleterious effects appeared in no more than ten, and as late as the middle of the course. Thus injury is the result not of dosage but of accumulation. Added proof of this is the fact that impairments generally appeared after ten injections.

In cases treated with arsphenamine and bismuth arsphenamine had no influence on the findings since it was given after a large amount of bismuth alone had been introduced into the body.

Sediment disturbances after treatment were as follows: They increased in 35 cases; remained fixed in 17, and decreased in 44. The sediment of patients seen three months after treatment was always normal.

The author concludes that bismuth is not altogether harmless, but in patients with apparently healthy kidneys there arose no complications which could disqualify bismuth for the treatment of syphilis.

UNIVERSITY OF OKLAHOMA SCHOOL OF MEDICINE COURSE IN BIOCHEMISTRY AND PHARMACOLOGY

None of the medical sciences have made as great and as important advance in recent years as has Biochemistry. This is true not only in reaching a better knowledge of tissue phenomena and disease processes but also as aids to diagnosis and the regulation of treatments. Various biochemical laboratory tests have been employed for some years. Some of these have been found inaccurate and misleading and have been replaced by more exact methods. Other procedures have been greatly simplified without sacrificing reliability.

The average practitioner does not use modern biochemical diagnostic methods to any extent but is content to use older and more reliable qualitative tests in urine, blood and gastric analysis. On the other hand, hospitals are utilizing modern methods, and having found them valuable aids to diagnosis and treatment, are spending considerable time and effort in keeping their methods up to date. The reason for this difference might be ascribed to the fact that some of the procedures are better adapted to the hospital organization than to the office of the private practitioner. However, there are methods which can be profitably used by the practicing physician, and the greatest obstacle to their more general employment is not so much a question of expense or of the physician's time, but rather the attitude of the physician. It is encouraging to note that an ever-increasing number of physicians and clinics are beginning to use the simpler methods, which are indispensable in the scientific treatment of diabetes, nephritis, etc. Some physicians study these methods themselves and then give over the technical details to a part time assistant whom

they have trained and whose work they supervise. At least if the physician be acquainted with these analytical methods, he can in times of special need do his own analyses, or if he gives his work to some commercial laboratory he becomes a better judge of the results, better able to interpret results and so they are of more important value to him.

Note: In this connection it may be of interest to note that the University Medical School has instituted a course of study for physicians and hospital technicians under the direction of the department of Biochemistry and Pharmacology at Norman. This course can be taken at practically any time suitable to the applicant. An announcement of a summer course will be found on another page of this issue.

HOW TO TAKE CARE OF HYPODERMIC SYRINGES AND NEEDLES

Recently a pamphlet was published on "Standardizing on Sizes and Makes of Hypodermic Syringes and Needles", which contains a large amount of information valuable to all practicing physicians.

It gives many suggestions as to the gauge and length of needles and the size of the syringes which are generally used for the various operations, which conclusions were reached after consultation with some of the foremost surgeons in the country.

There are also many notes regarding the care and sterilization of needles and the syringes and the pamphlet also outlines the comparative merits and cost of steel, nickeloid, gold and platinum-iridium needles.

Any physician interested can secure a complimentary copy by writing to Becton, Dickinson & Co., Rutherford, N. J.

THE ANNUAL MEETING COMMITTEES

The following have been appointed as the Committee on Arrangements for the annual meeting of the State Medical Association to be held in Oklahoma City, June 22, 23, and 24th:

Dr. Wm. H. Bailey.....General Chairman
Dr. Carroll M. Pounders, Chairman of Committee on Information, Registration and Badges.

Dr. A. J. Sands, Chairman of Committee on Clinics.

Dr. Horace Reed, Chairman of Committee on Meeting Places.

Dr. J. B. Eskridge, Chairman of Committee on Finances.

Dr. Rex Bolend, Chairman of Committee on Entertainment.

Mrs. E. P. Allen, Chairman of Committee from Ladies Auxiliary.

INVITATION FROM THE OKLAHOMA COUNTY MEDICAL SOCIETY.

The Oklahoma County Medical Society extends to the members of the Oklahoma State Medical Association a most cordial invitation to attend the Annual Meeting of the Association to be held in Oklahoma City, June 23, 23, and 24th. They especially ask that an effort be made by every member to attend this meeting so as to assist in making it one of the most successful and largely attended in the history of the Association. The Committee on Arrangements is already organized and working and is making plans to entertain you and to give you an interesting and valuable three days.

OFFICERS OKLAHOMA STATE MEDICAL ASSOCIATION

President, 1925-26, Dr. P. P. Nesbitt, Palace Bldg., Tulsa.
 President-Elect, Dr. A. S. Risser, Blackwell.
 First Vice President, Dr. S. E. Mitchell, Muskogee.
 Second Vice-President, Dr. J. S. Fulton, Atoka.
 Third Vice-President, Dr. R. S. Love, 601 Medical Arts Bldg., Oklahoma City.
 Secretary-Treasurer-Editor, Dr. C. A. Thompson, Barnes Bldg., Muskogee.
 Associate Editor, President Dr. P. P. Nesbitt, Tulsa.
 Meeting Place, Oklahoma City, June 22, 23, 24, 1926.
 Delegates to the A. M. A. Dr. Albert Cook, Palace Bldg., Tulsa, 1925-26; Dr. McLain Rogers, Clinton, 1926-27.

CHAIRMAN OF SCIENTIFIC SECTIONS

General Medicine, Neurology, Pathology and Bacteriology, Dr. Claude T. Hendershot, Chairman, Orpheum Bldg., Tulsa; Dr. Basil A. Hayes, Secretary, Medical Arts Bldg., Oklahoma City.

Eye, Ear, Nose and Throat, Dr. Joseph W. Beyer, Chairman, Palace Bldg., Tulsa; Dr. L. A. Newton, Secretary, Medical Arts Bldg., Oklahoma City.

Genito-Urinary, Dermatology and Radiology, Dr. Charles J. Woods, Chairman, Wright Laboratory Bldg., Tulsa; Dr. C. B. Taylor, Secretary, 1002 Medical Arts Bldg., Oklahoma City.

Obstetrics and Pediatrics, Dr. R. M. Anderson, Chairman, Shawnee; Dr. J. G. Binkley, Secretary, Medical Arts Bldg., Oklahoma City.

Surgery and Gynecology, Dr. F. A. Hudson, Chairman, Enid; Dr. A. W. Pigford, Secretary, 510 Palace Bldg., Tulsa.

COUNCILORS AND THEIR COUNTIES

District No. 1, Texas, Beaver, Cimarron, Harper, Ellis, Woods, Woodward, Alfalfa, Major, Grant, Garfield, Noble and Kay. Dr. A. S. Risser, Blackwell. (Term expires 1928).

District No. 2, Dewey, Roger Mills, Custer, Beckham, Washita, Greer, Kiowa, Harmon, Jackson and Tillman, Dr. Alfred A. Bungardt, Cordell. (Term expires 1926).

District No. 3, Blaine, Kingfisher, Canadian, Logan, Payne, Lincoln, Oklahoma, Cleveland, Pottawatomie, Seminole and McClain. Dr. Walter Bradford, Shawnee. (Term expires 1928).

District No. 4, Caddo, Grady, Commanche, Stephens, Jefferson, Garvin, Murray, Carter, and Love.

District No. 5, Pontotoc, Coal, Johnston, Atoka, Marshal, Byran, Choctaw, Pushmataha and McCurtain. Dr. J. S. Fulton, Atoka. (Term expires 1928).

District No. 6, Okfuskee, Hughes, Pittsburg, Latimer, LeFlore, Haskell and Sequoyah. Dr. L. S. Willour, McAlester. (Term expires 1928).

District No. 7, Pawnee, Osage, Washington, Tulsa, Creek, Nowata and Rogers. Dr. Gregory A. Wall, Palace Bldg., Tulsa. (Term expires 1926).

District No. 8, Craig, Ottawa, Deleware, Mayes, Wagoner, Cherokee, Adair, Okmulgee, Muskogee, and McIntosh. Dr. J. Hutchings White, Surety Bldg., Muskogee. (Term expires 1928).

STATE BOARD OF MEDICAL EXAMINERS

Dr. H. C. Weber, Bartlesville, President; Dr. Harper Wright, Grandfield, Vice President; Dr. James M. Byrum, Shawnee, Secretary; Dr. William P. Fite, Muskogee; Dr. William T. Ray, Gould; Dr. D. W. Miller, Blackwell; Dr. L. E. Emanuel, Chickasha.

Meetings held on second Tuesday and Wednesday in January, April, July and October. Oklahoma City. Do not address communications concerning State Board examinations, reciprocity, etc., to the Journal or to Dr. C. A. Thompson, Secretary, but to Dr. J. M. Byrum, Shawnee, Secretary of the Board.

The applicant for license, either by examination or reciprocity shall be a graduate of a medical school, the requirements of which for graduation

shall have been, at the time of graduation, in no particular less than those prescribed by the Association of American Medical Colleges for that particular year.

Reciprocal relations have been established with Missouri, Colorado, New Jersey, California and Louisiana, on basis of examination only, Arkansas, Georgia, Indiana, Iowa, Kansas, Kentucky, Michigan, Mississippi, Nebraska, Nevada, New Mexico, North Carolina, Ohio, Tennessee, Texas, Vermont, Virginia, Washington, Wisconsin, West Virginia, on basis of a diploma and a license without examination in case the diploma and the license were issued prior to June 12, 1908.

STANDING COMMITTEES

Medical Defense—Dr. L. S. Willour, Chairman, McAlester; Dr. P. P. Nesbitt, Palace Bldg., Tulsa; Dr. J. H. White, Surety Bldg., Muskogee; Dr. C. A. Thompson, Barnes Bldg., Muskogee; Dr. Ralph V. Smith, Security Bldg., Tulsa.

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Legislation—Dr. J. M. Byrum, Chairman, Shawnee; Dr. E. S. Lain, Medical Arts Bldg., Oklahoma City; Dr. G. A. Wall, Palace Bldg., Tulsa; Dr. W. A. Tolleson, Enid; Dr. C. W. Tedrowe, Enid.

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Cancer Study and Control—Dr. LeRoy Long, Chairman, Medical Arts Bldg., Oklahoma City; Dr. J. F. Park, McAlester; Dr. A. A. Will, Shops Bldg., Oklahoma City.

Veneral Disease Control—Dr. W. J. Wallace, Chairman, American Bldg., Oklahoma City; Dr. F. E. Warterfield, Commercial Bldg., Muskogee; Dr. E. L. Cohenour, Bliss Bldg., Tulsa.

Conservation of Vision—Dr. W. Albert Cook, Chairman, Palace Bldg., Tulsa; Dr. E. S. Ferguson, Medical Arts Bldg., Oklahoma City; Dr. C. M. Fullenwider, Barnes Bldg., Muskogee.

Tuberculosis Study and Control—Dr. L. J. Moorman, Chairman, Medical Arts Bldg., Oklahoma City; Dr. John T. Wharton, Sulphur; Dr. R. M. Sheppard, Tahina.

Scientific and Educational Exhibits—Dr. Horace Reed, Chairman, Medical Arts Bldg., Oklahoma City; Dr. Claude T. Hendershot, Orpheum Bldg., Tulsa; Dr. Earl D. McBride, 717 No. Robinson St., Oklahoma City.

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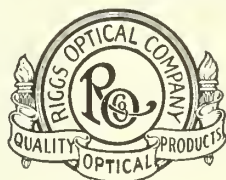
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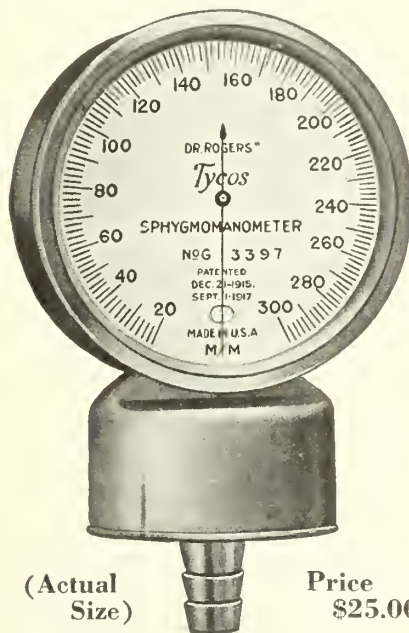
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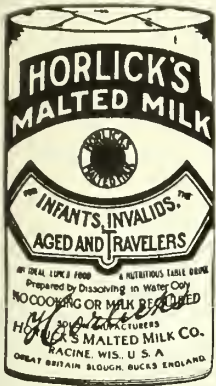
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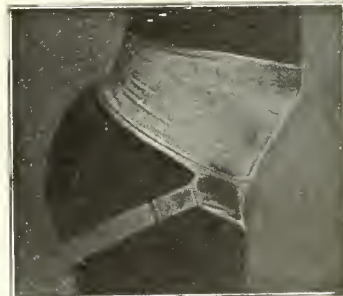
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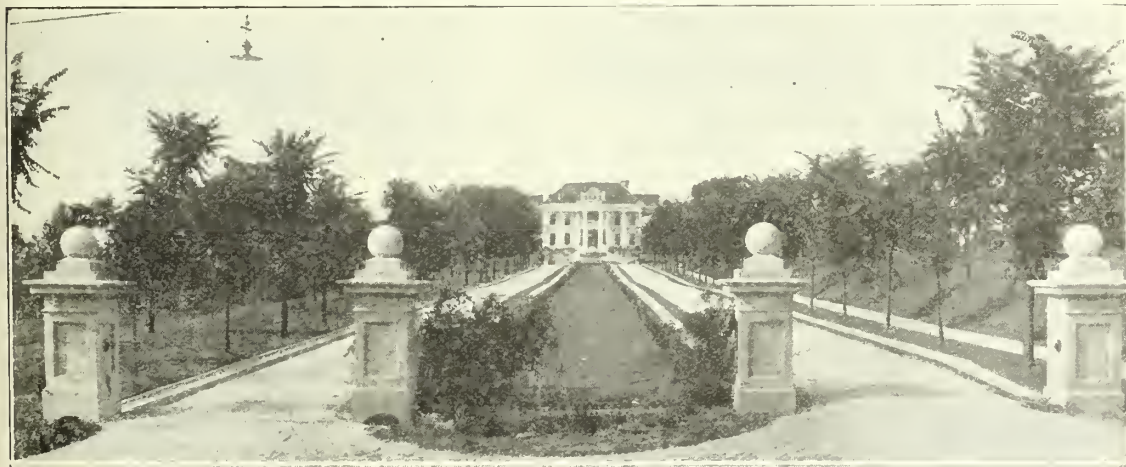
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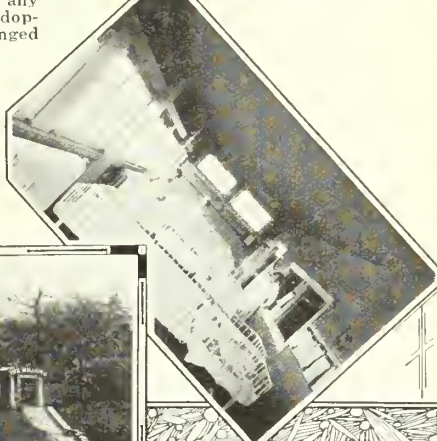
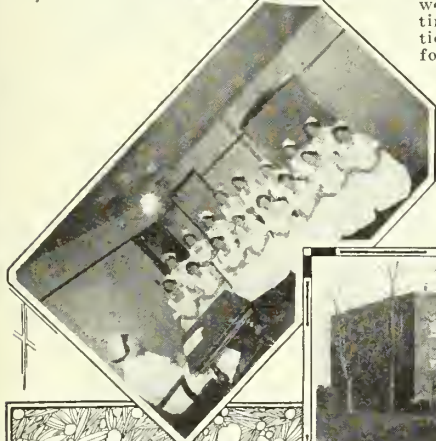
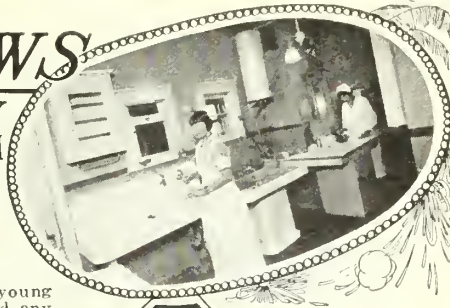
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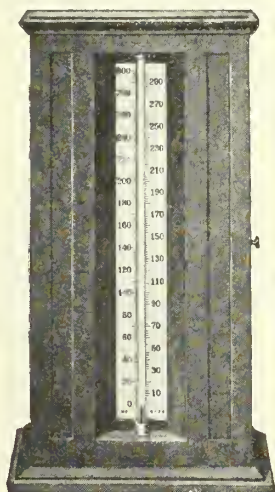
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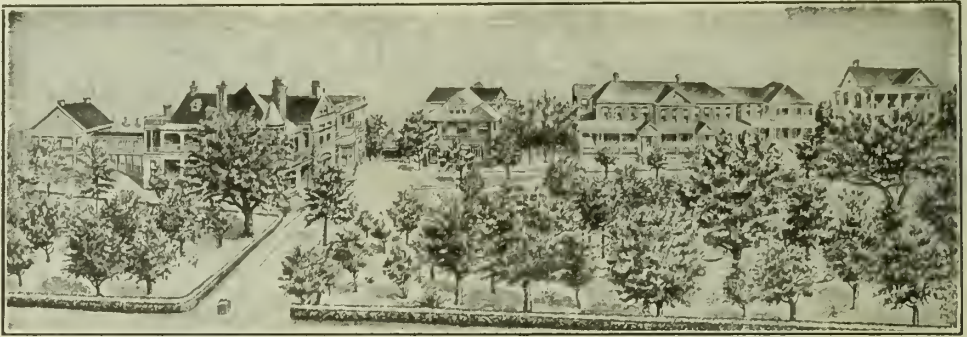
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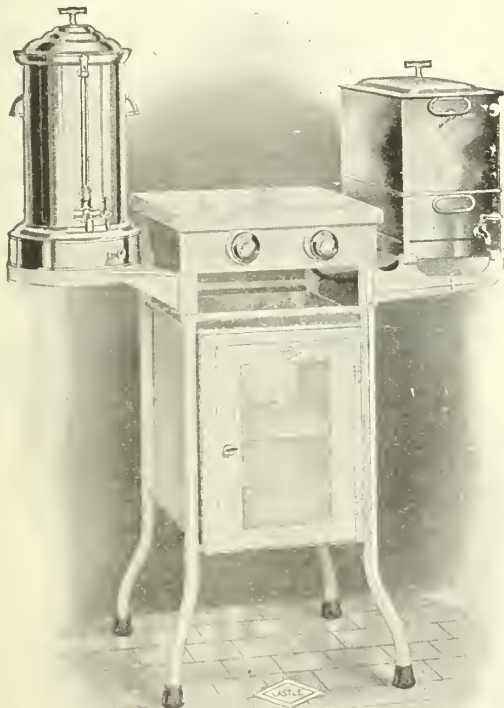
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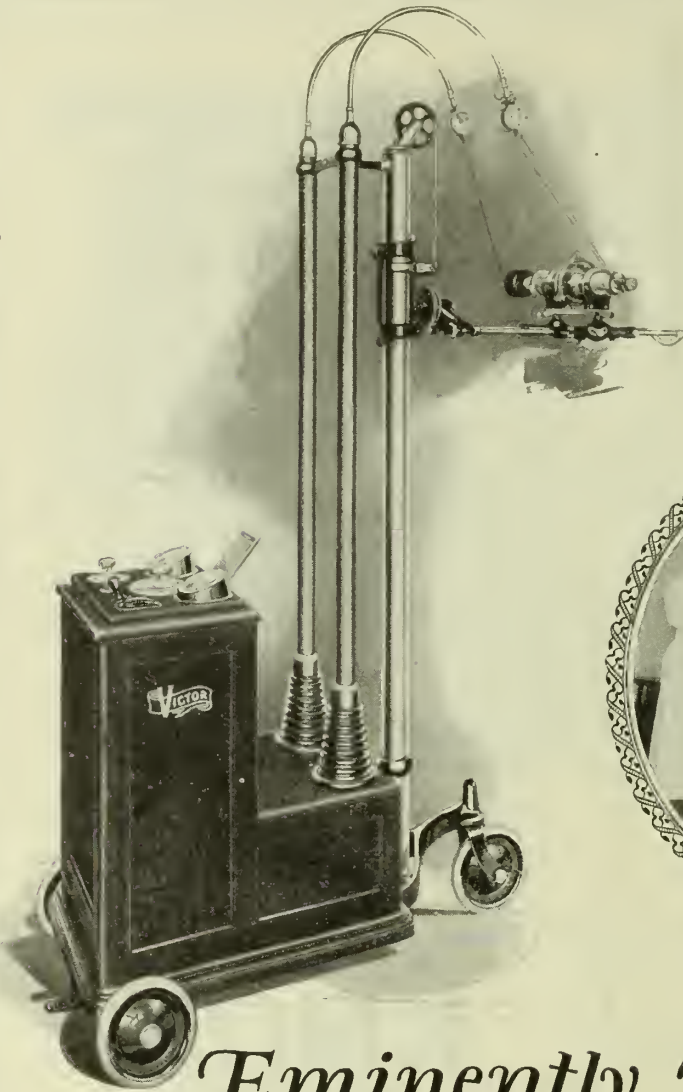
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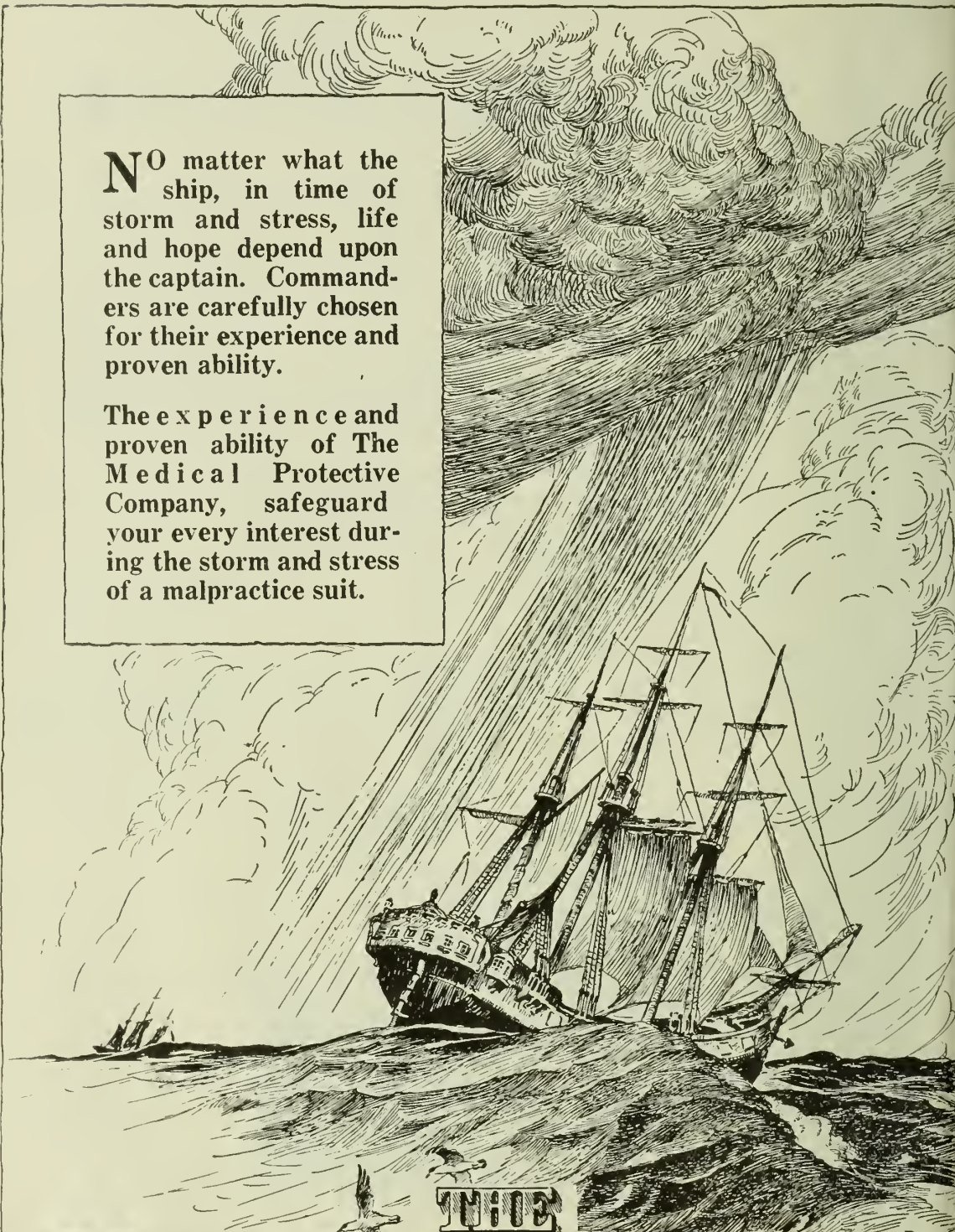
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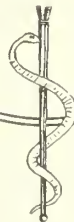
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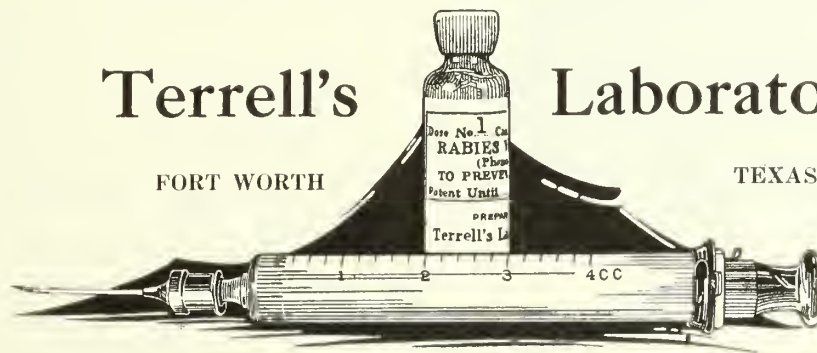
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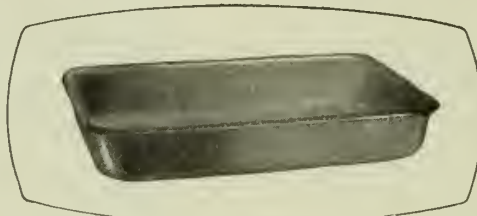
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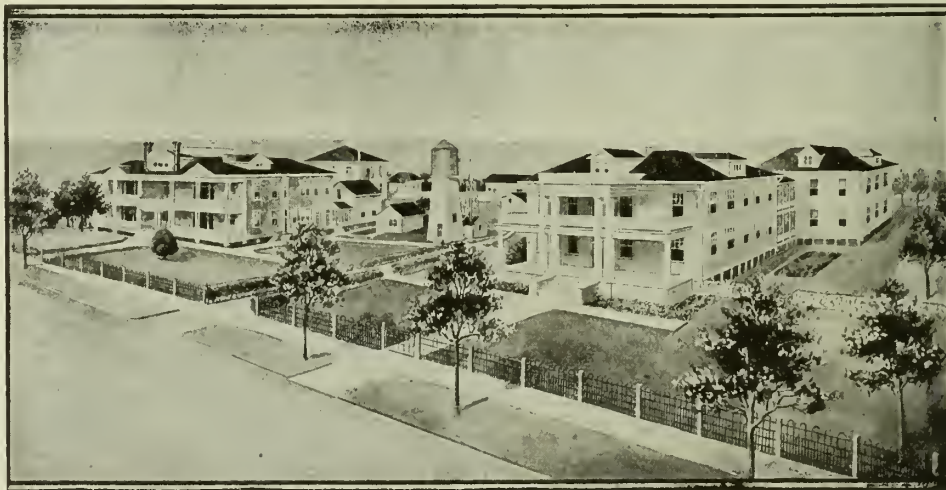
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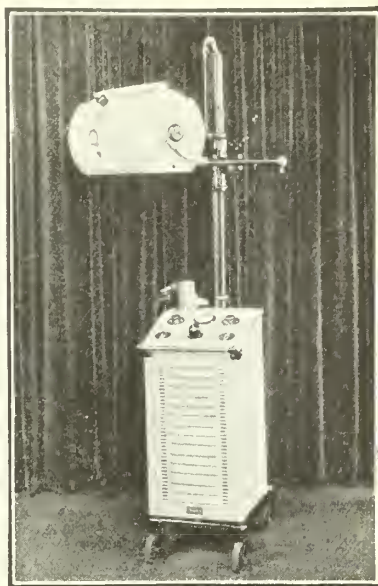
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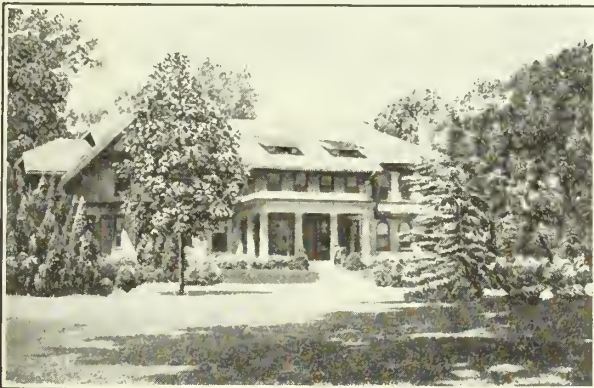
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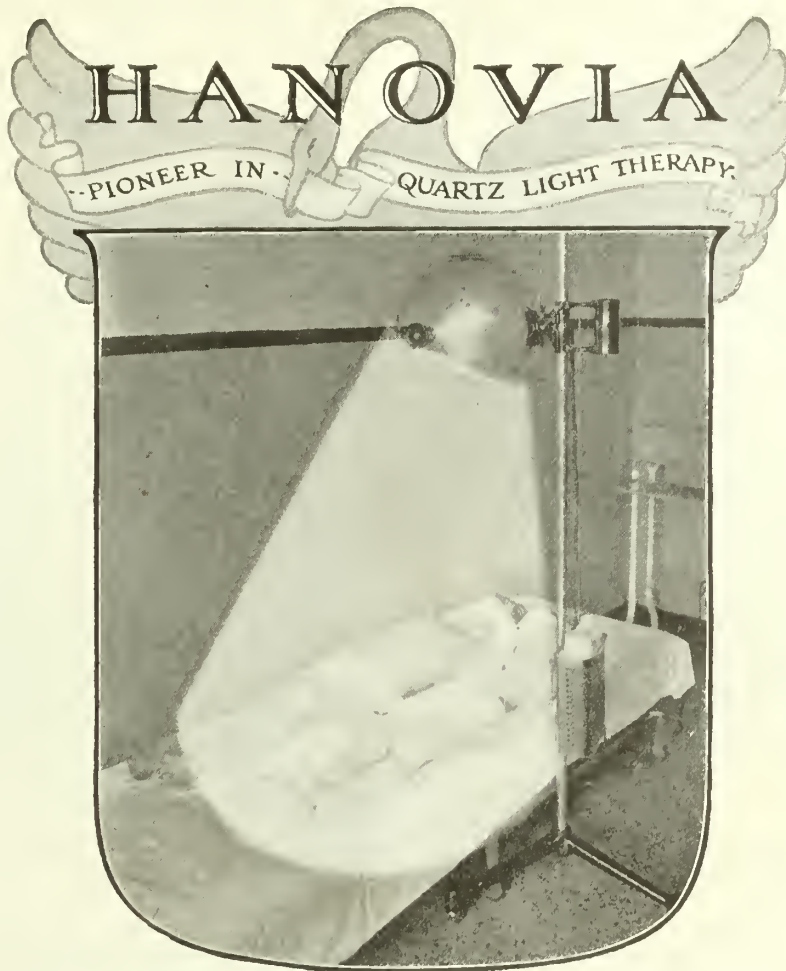
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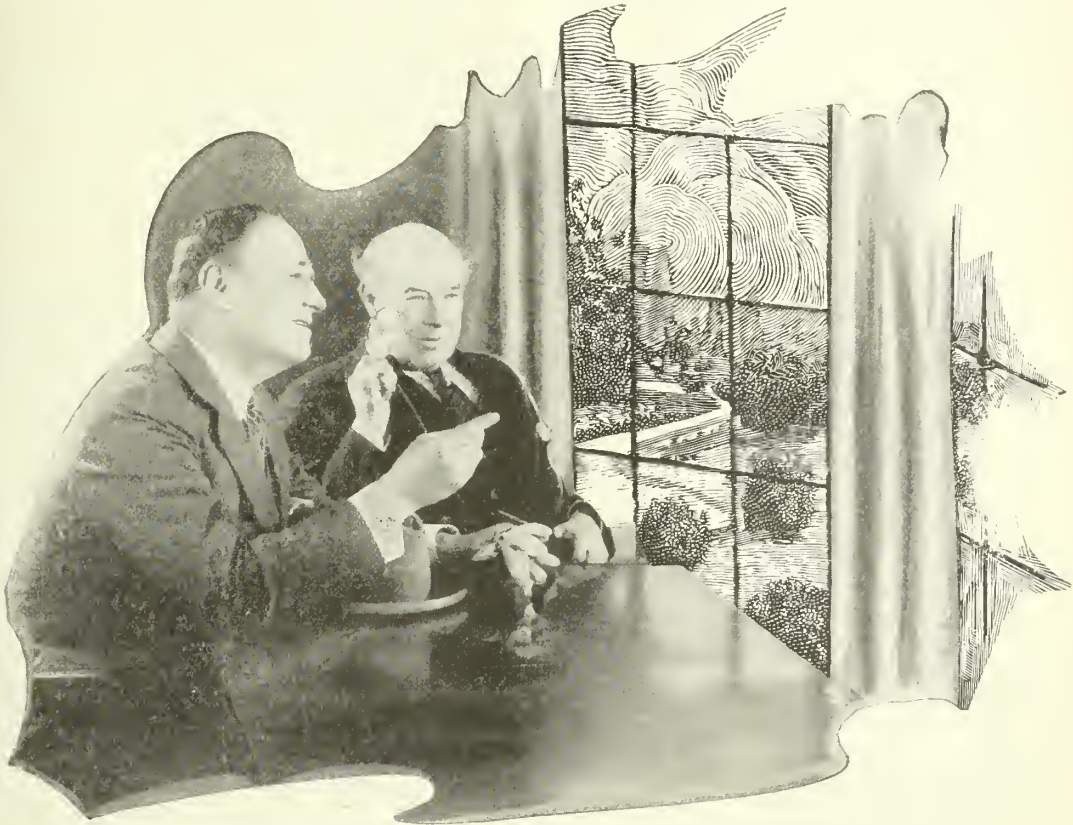
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VOLUME XIX

MUSKOGEE, OKLA., MAY, 1926

NUMBER 5

LARYNGO-TRACHEO-BRONCHIAL ENDOSCOPY

AUSTIN L. GUTHRIE, M.D.,
OKLAHOMA CITY

Endoscopy, or direct laryngoscopy and bronchoscopy is no more or less than examination of the larynx, and the tracheobronchial tree by instruments, which present a direct image of the structures in contradistinction to the inverted image seen by the older and more common method of indirect examination.

The principles of tracheo-bronchial endoscopy are in no wise different from other endoscopic examinations, other than the consideration which we must give to the vital organ whose function can not be interrupted without fatal results.

Killian must be given credit as the pioneer in this work. He was venturesome enough as far back as 1896 to pass a tube by the peroral route into the trachea for diagnostic purposes. The development of this method was necessarily slow, due to the lack of previous experience and imperfect instruments, and it has been only in the more recent years that it has been given a credited place as a diagnostic and life saving measure. For its progress of development and the teaching of proper methods of procedure, Chevalier Jackson is our most noted exponent in this country.

This direct method of examination, with our modern electric lighted instruments, shows the structures in their normal color and position and makes visible the laryngeal ventricles which can not be seen by the indirect method of examination.

The trachea and larger bronchial tubes in the adult are but little affected by normal respiratory movements, there being only a movement in the vertical direction of 1-2 M. The respiratory changes in the lumen of the trachea and bronchi are more marked in infants and children and the smaller branches are similarly affected in adults. They elongate and expand during

inspiration, and shorten and contract during expiration. Strong expiratory efforts cause a complete closure of the smaller branches in adults and the larger branches in children. These great changes often make exploration and operation possible only during inspiration. The partial or complete closure of the tube during expiration not only increases the force and rapidity of the air current, but has a direct propulsive effect upon secretions. The fact that expulsion of secretions in cases of paralysis of the vocal cords is more difficult, is clinical evidence of this physiological function.

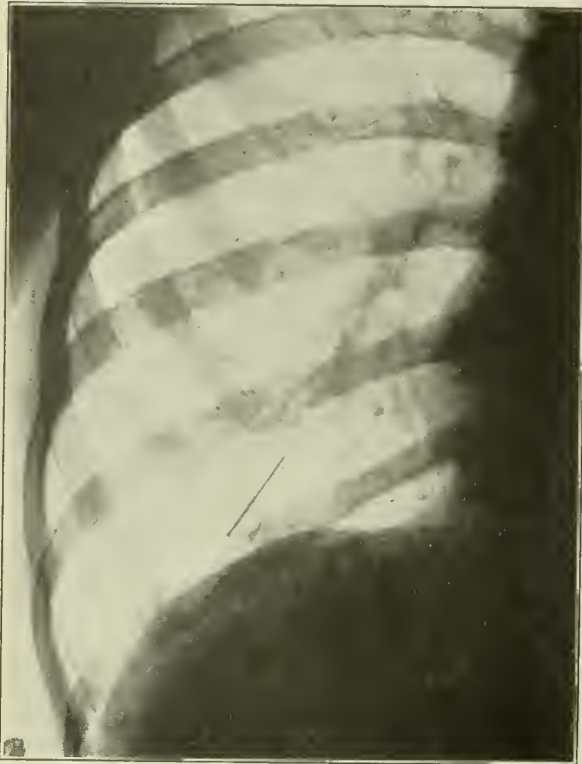
Due to these changes in the lumen of the tubes, extra tracheal stenosis will impede inspiration, while intra-tracheal stenosis or obstruction will have a tendency to obstruct expiration. This differentiation is only apparent upon forced respiration. In cases of laryngeal edema, the swollen soft structures are drawn into the constriction formed by the glottis, during inspiration, while in those cases of sub-glottic edema, the swollen tissues may be forced into the constriction during expiration, the former causing more difficult inspiration, the latter more difficult expiration.

While the trachea and bronchi are elastic structures and easily displaced and compressed, they can not be dilated beyond their normal dimensions. It is, however, this resiliency that makes bronchoscopy possible. The greatest expansion of the lung as a whole is vertical or in the direction of the diaphragm. Next, laterally, and last, ventrally. Little, if any expansion occurs dorsally.

Intrapulmonary air pressure in quiet respiration under normal conditions is minus 1-2 M., inspiratory, and plus 2-5 M., expiratory. When there is some obstruction to the respiratory movement, forced inspiratory negative pressure may be minus 60 M., and the expiratory 80 M. This great change from normal is conducive to an alternate congestion and depletion of the vessels in the bronchial mucosa.

The negative pressure at the beginning of inspiration is gradually diminished as the lungs fill and is changed to positive pressure as an attempt is made to expel the air.

Let us consider, briefly, some of the symptoms resulting from foreign bodies. If the foreign body is lodged in the larynx, there is usually the initial laryngeal spasm, croupy cough and hoarseness. They have pain in the larynx, or the pain may be referred to the ear. If the foreign body is large enough we will have dyspnea from mechanical obstruction or a laryngeal



CASE NO. 1.

edema may develop, especially if the substance is irritating in character.

When the foreign substance is in the trachea or main bronchi and movable, it can usually be felt by the patient and heard by the examiner. Violent coughing ensues upon movement of the object. If of any considerable size and movable, it may lodge just below the glottis and its valve-like action cause a sudden stoppage of phonation. If the foreign body is fixed, there will be little or no cough. The presence of dyspnea will depend upon its size. When in the bronchus dyspnea will usually

be absent. A wheeze similar to that heard in asthma may usually be heard at the mouth, but not over the chest wall. Pain is not common, but may be present and accurately localized. Foreign substances, like a peanut kernel or pop corn are irritating and cause a diffuse tracheo-bronchitis to develop, which in turn, causes fever, dyspnea, cough and cyanosis. Pulmonary abscess develops sooner than in case of metallic bodies. After a foreign body has been present for a long time all of the symptoms of tuberculosis may be simulated.

Asphyxia may be due to the shifting of the foreign body to the sub-glottic region, or into the free bronchus after the previously affected lung has filled with secretions, or to the release of pent up secretions suddenly flooding the free lung. These emergencies must be met by the prompt removal of the foreign body and secretions. In this connection an efficient aspirator is a life saver in many instances. Asphyxia following operation, especially in infants, is usually due to laryngeal or sub-glottic edema coming on from four to twelve hours after the operation and must be relieved by intubation or tracheotomy. These cases, as well as all other cases of laryngeal obstruction should not be deferred until they have become exhausted from muscular exertion.

Tracheotomy is the safer procedure, although objectionable from an aesthetic standpoint, especially in the female. Intubation is a safe procedure under the following conditions. Patient must be in hospital and have a competent nurse in constant attendance, and the surgeon must be readily accessible. By this latter statement, I mean that the nurse must be reliable in every respect and never leave the patient. Should respiration become impaired by clogging of the intubation tube, or the tube be coughed out, the surgeon must be notified immediately and directly and not after an interne has attempted to replace the tube. A difference of five minutes may mean the loss of a life. If you are not able to comply with the above conditions I strongly advise against intubation for laryngeal edema, regardless of its cause.

A sudden and complete closure of a main bronchus as shown in one of the accompanying reports will give the following

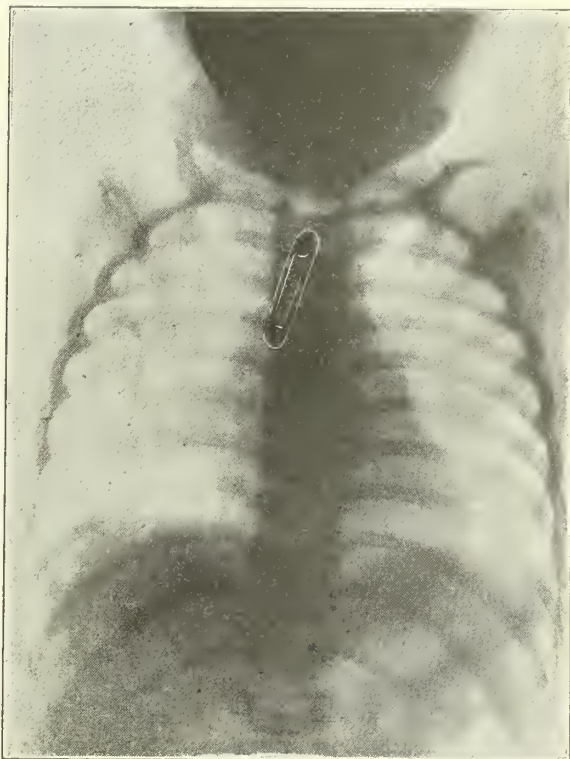
physical signs. The lung was over-filled by a sudden and forced gasping breath. The foreign body accompanied the inrush of the air and the dilation of the bronchus, the size of which would not permit of further passage, where it became fixed by the contracture of the bronchus that accompanies expiration. This physical condition is similar to a closed valve that tends to become seated more firmly upon inspiration without any tendency to release itself upon expiration. The air spaces are over-distended and we have a continuous positive pressure until the confined air becomes absorbed when the negative pressure may reach minus 50-M. The physical findings, during this positive pressure are as follows: Limited expansion, diminished vocal fremitus tympanic percussion note and absence of breath sounds. The resulting emphysema causes displacement of the heart to the opposite side. The X-ray plate will be more transparent on the affected side. This differential emphysema will be more marked if the exposure is taken at the end of expiration. Prolonged bronchial obstruction is followed by absorption of air, a negative pressure, the accumulation of secretions and the return of the heart and diaphragm to normal positions or even displacements toward the affected lung, when we have a flat percussion note, rales and retraction of the involved side. In short, the general symptoms of empyema or pulmonary abscess. The plate will be darker on the affected side and a compensatory emphysema on the free side.

If the foreign body has remained any considerable time, the retained secretions act as a foreign proteid and cause a rise in temperature. These symptoms often lead to the mistaken diagnosis of pneumonia, but rapidly disappear upon removal of the foreign body. Pneumonia is, however, a frequent complication but in my opinion is due to an accompanying invasion of the lung by pyogenic organisms.

Indications for tracheo-bronchial endoscopy. In all cases of known or suspected foreign bodies. Where there are symptoms of tuberculosis without the presence of the tubercle bacillus, (especially lower right lobe). In any case showing signs of obstruction of the trachea or bronchi. As a diagnostic means in any obscure thoracic disease, unexplained cough, hemoptosis or

expectoration. In dyspnea not relieved by tracheotomy. Paralysis of the recurrent laryngeal nerve of unknown origin. Pulmonary abscess. Endoscopic examination may reveal pressure on the trachea or bronchi from the thymus, thyroid, aneurism, malignancy, mediastinal glands, or hypertrophied auricle. As a means for treatment of edematous tracheo-bronchitis, (usually influenzal or from aspiration of irritants). Tracheo-bronchial diphtheria, abscess of the lung and bronchial stenosis (following removal of foreign body or from luetic cicatrices).

Contra-indications: There are no con-



CASE NO. 2.

tra-indications to bronchoscopy for the removal of foreign bodies, unless it be a case that has become exhausted from previous attempts by an unskilled operator. In this case, the operation should be deferred just long enough for recuperation of the patient. Contra-indications to bronchoscopy for diagnostic purpose would be tuberculosis, laryngeal diphtheria, aortic aneurism and advanced malignancy.

Foreign bodies should be removed as soon as possible after their entrance, allowing only time for localization and practise on a similar object.

Undue delay increases the difficulties of the operation and the rapidly developing pathology renders the patient a less favorable subject and predisposes to serious complications.



CASE NO. 3.

Before Operation—Film made at full expiration; right diaphragm low; heart pushed to left; marked increase in amount of air in right lung.



CASE NO. 5.

After Operation—Exposure made at full inspiration; does not show low diaphragm and such a great difference in amount of air in right and left side.

The following case reports have been selected as illustrations of definite symptomatology as well as those without symptoms.

No. 1. V. P., female, age 24, thought she swallowed a pin four weeks ago. No symptoms with the exception of pain in right abdomen which developed within the past few days. X-ray showed pin in lowermost part of lower lobe of right lung. Under ether anesthesia pin was removed the same day as admission to hospital. No complications.

No. 2. B. C., male, age 16 months. Aspirated a small safety pin three days before admission to hospital. Hoarseness and cough were immediate and persistent symptoms. Physical examination: T. 102, P. 24, R. 28, wheezing, labored respiration. Limitation of excursions of right upper chest. Tactile fremitus increased, coarse and rough breath sounds upper chest. Endoscopic examination, same day of admission, located pin in right bronchus. No anesthetic. The following day edema of the plottis developed which required intubation. Patient discharged ten days after admission.

No. 3. M. K., male, age 21. Aspirated grass burr one week ago. Complained of irritation, slight cough and some pain in laryngeal region, just below the glottis. Made an attempt at removal under local anaesthesia, but was unsuccessful. Under ether, burr became dislodged and was aspirated into the right bronchus. Removed through bronchoscope. No complications.

No. 4. O. B., female, age 5 years. Aspirated a grain of corn several days before admission. Patient had spasms of coughing, dyspnea and cyanosis, which were alarming. T. 101, P. 132, R. 42. A hurried laryngeal examination was made but discontinued on account of failure of respiration and a tracheotomy performed. Local anaesthesia for tracheotomy. General condition improved and grain of corn was removed through tracheal opening from sub-glottic region. Sub-glottic edema developed which persisted for 13 days. Tracheal tube removed on 13th day. Patient discharged four days later.

No. 5. R. P., female, age 2 years. Aspirated a grain of pop corn (popped) one day before admission. Had spasmodic coughing and wheezing. Physical examination: T. 99 1-2, R. 36. Limited expansion of right thorax. Diminished vocal fremitus.

tus, tympanic percussion note and absence of breath sounds over right lung. Heart displaced to the left. Diaphragm depressed and stationary. X-ray plate more transparent on right side. A diagnosis of foreign body completely obstructing the right bronchus was made. Endoscopic examination substantiated the diagnosis and the foreign body removed. All physical phenomena immediately disappeared. Patient discharged on the third day.

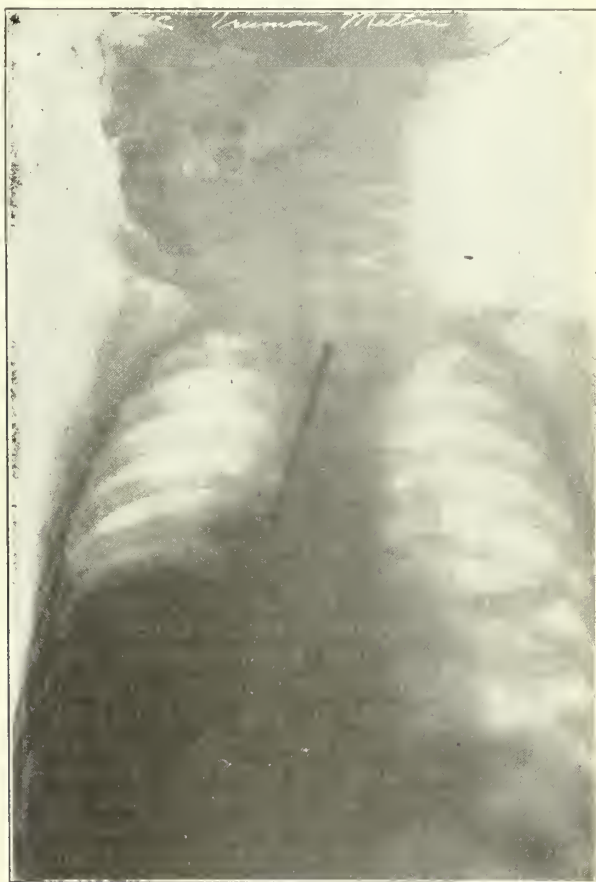
No. 6. T. M., male, age 2 years. Aspirated a nail ten days before admission. No pulmonary symptoms developed for four or five days after which there was a gradual rise in temperature accompanied by a cough and expectoration. Upon admission, T. 104, P. 140, R. 38, with symptoms of consolidation in right lung. X-ray showed nail in right bronchus. Bronchoscopy was performed without anæsthesia and a rusty nail removed. Pulmonary symptoms gradually disappeared and patient was discharged at the end of ten days.

No. 7. Female, age 14 months. Had an attack of choking two months ago, and has had a cough ever since, but no other symptoms. Physical examination: Some impairment of breathing over left upper lobe. Breath sounds of asthmatic character. X-ray. Small nail in left bronchus. The day following admission, an attempt was made to remove nail but was unsuccessful on account of faulty equipment. Following this attempt, there was a marked reaction. Increase in temperature 103, leucocytosis 12,200 and edema of the larynx, necessitating intubation. We were not able to discontinue the use of intubation tube for three weeks. On the 22nd day, operated again and removed the nail. Re-introduced intubation tube and left in site for five days. Baby discharged six days after operation, apparently normal.

No. 8. Male, age 10 years. History of inhaling grass burr 5 hours previously, which caused marked dyspnea, cough and pain on deglutition. Immediately after the accident, patient was given ether at another town and an attempt made at removal. Before recovering consciousness, patient was placed in an open automobile and brought to the University Hospital, arriving here about 8:30 P. M. Upon examination, the following physical signs were present: Dysphagia, slight dyspnea, aphonia and a coarse rasping respiration,

heard most distinctly over the larynx and transmitted downward over trachea and bronchi. A diagnosis of a foreign body in the region of the glottis was made and immediate operation decided upon. Burr quickly removed with immediate relief of symptoms. Discharged two days later O. K.

No. 9. Male, 8 months. History of coughing and strangling after eating watermelon containing seeds four days ago. Has had difficulty in breathing ever since. Upon admission to hospital respiration was rapid and wheezing sound was



CASE NO. 6.

heard over the lower right chest. Many rales present over lower right lobe. X-ray negative. Bronchoscopic examination revealed watermelon seed in the lower right bronchus. Time of removal two minutes. The child had a white count of 17,500 and two degrees elevation of temperature upon admission. The temperature gradually rose to 102 degrees following the operation, where it remained for two days, then suddenly dropped to normal.

Before any endoscopic work is attempted in the thoracic cavity, we must be equipped with a complete set of instruments and see that they are all in perfect order before beginning operation. The mechanical problems must be anticipated and the proper instruments at hand. A study of similar previous cases of your own and others, together with practice on a manikin before operating is our only means of foreseeing complications and mechanical difficulties that may arise during operation. The mechanical skill, as well as the technic that is absolutely essential in this work can only be acquired by much practice. Not alone must the operator require a certain skill, but he must have a well trained corps of assistants. Especially must the assistant who holds the patient's head be one with whom he works constantly, as the position of the patient is of the utmost importance. Of course the highest degree of efficiency in any operative procedure can only be obtained by actually operating on the living subject and since no man has enough private work along this line, it is necessary to be connected with a large clinic where opportunity for practice is afforded. A general anaesthetic is rarely indicated except in adults of a very neurotic temperament, but whenever used, ether (preceded by atropine) is chosen as the safest. A tank of oxygen and a tracheotomy set must always be ready whether general anaesthesia is used or not. General anaesthesia is contra-indicated when there is a foreign body in the larynx or trachea causing dyspnea, in pneumonia and in cases where the lung is filled with secretions. Ether is not contra-indicated on account of laryngeal spasm, as this condition is frequently relieved by an anaesthetic. Emesis is not a particular objection, as it is inhibited when the larynx is held open by the bronchoscope. Infants and children require no anaesthetic. Adults have the pharynx and larynx anaesthetized locally with ten per cent cocaine.

Space has not permitted a discussion of the mechanical problems and technic involved in this work, and I have only attempted to point out its possibilities as a diagnostic means and life saving measure.

ECTOPIC PREGNANCY*

WITH THE REPORT OF EIGHTEEN CASES
CLASSIFIED INTO FOUR GROUPS.

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EL RENO

Eighteen cases of ectopic pregnancy entered the El Reno Sanitarium between February 3, 1923, and March 5, 1925, with but one death, which was the only unoperated case.

Of the number operated, the right tube was affected in twelve patients, nine of which showed adhesions about the cecum, and definite pathology of the appendix. The following case histories will tend to illustrate the series.

1. Frank rupture of the tube with profuse intra-abdominal hemorrhage. (Five cases.)

Patient thirty-two years of age, entered August 14th, 1924. General good health. Mother of two children, youngest seven years of age. Never had any pelvic trouble. Menstrual periods, regular, every twenty-eight days. Has never missed a period. About three o'clock in the morning was suddenly awakened by a severe sharp cutting pain in the pelvis. She was brought to the hospital immediately.

Physical examination: White, medium-sized woman, subnormal temperature, pale, extremities cold, every appearance of shock. Abdomen somewhat distended and tympanitic. A tumor mass was palpable through the right abdominal wall. Tender and fluctuating on pressure.

Vaginal examination: Bloody mucous discharge. Cervix soft. A large boggy mass filled the pouch of Douglas. The uterus was movable and somewhat enlarged.

On opening the abdomen a large amount of dark blood gushed out. The isthmic portion of the tube was ruptured and bleeding freely. The tube was clamped and tied, and the distal portion removed. One thousand c.c. normal salt solution was given by hypodermoclysis. The tissue was sent to the laboratory for examination. The finding of chorionic and placental tissue confirmed our diagnosis of ruptured tubal pregnancy.

The second patient of this series died unoperated, giving almost an identical his-

*Read before the Section on Surgery and Gynecology, Annual Meeting, Oklahoma State Medical Association, Tulsa, May 12, 13, 14, 1925.

tory and physical findings, as the first. However, when she entered the hospital, shock was markedly pronounced. Stimulants were given and we waited for a favorable reaction, but while we awaited the so called "favorable reaction", the patient went on to an uneventful death.

We have reached the opinion, whenever we see a possible pregnant woman in a state of profound collapse, presenting a deathly pallor, rapid, thready pulse, subnormal temperature, and other symptoms of intra-abdominal hemorrhage, immediate operation is demanded, unless her condition is so desperate that death is very near at hand. Some operators prefer to observe their patients as to whether they are gaining or losing ground before resorting to surgical interference.

Hunter Robb, in 1907, advocated deferring operation while the patient was profoundly shocked, and waiting until the general condition had improved, as he held that the initial hemorrhage was rarely fatal, and the patient died of shock, and if shock was properly combatted it could be performed later.

It is now the opinion of most operators to interfere as soon as possible, by quickly opening the abdomen, tie the bleeding vessels, scoop out the blood clots, and close the wound. With a well trained operating force this can be done very quickly.

II. Series number two of our cases are those which simulated acute appendicitis. (Four cases). Tubal abortion on the right side, with a small amount of hemorrhage, may assume the signs and symptoms of acute appendicitis, and may be diagnosed as such until the abdominal cavity is opened, as the following case will illustrate.

An unmarried woman, twenty-five years old, entered the hospital March 12th, 1923, complaining of acute abdominal cramping pains in the lower right quadrant, accompanied by nausea and vomiting. Onset, two days before admittance to our service. Temperature 100, pulse 99, and respiration 24. Menstrual period, regular.

Physical Examination: Abdomen slightly distended, muscular rigidity in lower right quadrant. Tenderness on pressure over McBurney's point. Blood counts; white blood count 9,800, red blood count 4,500,000. Polys, 78, Urine, cathetrized specimen, specific gravity 1.030, no albumin, no casts, no pus. Clinical diagnosis: Acute appendicitis.

Operation: Median incision, disclosed a right tubal abortion, small amount of clotted blood surrounding the fimbriated end of the tube. Appendix inflamed, and bound down by many adhesions. Ruptured end of the tube removed, sectioned, and under microscope, chronic villi were clearly seen, but the embryo was not found.

On the other hand, tubal pregnancy may present itself in such a degree as there will be a slow accumulation of blood without the rupture of the tube, or it may be associated with rupture of the tube in instances when the hemorrhage is not rapid and profuse. The embryo and membranes probably escape through a rupture in the wall, or more frequently through the end of the tube by "tubal abortion." The final result is a dense mass firmly bound together by layers of exudate and adhesions. If the blood be abundant, the hematocele may attain great size and fill the pelvis, leaving the uterus together with coils of intestines, firmly fixed in its midst.

But the real gravity of hematocele lies in its susceptibility to infection. If it becomes infected, symptoms of acute inflammatory disease will occur. When this condition exists, operation is indicated. (Eight cases).

Mrs. S. W., age thirty-two, entered the hospital September 10th, 1924, complaining of general malaise, fever 101. Condition began about four week previous, as a dull heavy feeling in the lower right abdomen, followed by a few sharp cramping pains, which confined her to her bed for a week, and gradually the pains subsided, and she was able to do some housework. About a week before entering she began to run a daily temperature of 100 to 102. Had been married eight years, borne no children, and no record of miscarriage. Irregular menstruation. Last period, three months previous. Physical examination: Abdomen slightly distended, palpable mass filling the lower pelvis. No muscular rigidity. Somewhat tender to pressure in lower right quadrant. On vaginal examination, there was found a firm, elastic mass, in the pouch of Douglas, with the uterus pushed anteriorly. On the basis of history and physical findings, a diagnosis was made of old ruptured ectopic pregnancy, with pelvic hematocele.

The pelvic region was exposed by laparotomy, the entire lower right abdomen

was filled by a large, old partially encapsulated blood clot, closely adherent to the tube, ovary, uterus, and intestines on the side. The fimbriated extremity of the tube showed an oozing of blood. The tube was removed, also the appendix, which showed definite pathology, adhesions were broken up, abdomen closed with one drainage tube inserted. Microscopical examination of the tube showed chronic villi.

Extra-uterine, or abdominal gestation, may develop to full term with symptoms resembling those of a normal pregnancy. (One case). When this condition goes on to term an attempt at labor usually occurs. After the pains subside the fetus dies, and with the placenta undergo various changes of degeneration, as will be noted from the following case:

Mrs. D. C., age thirty-four, entered the hospital August 29th, 1924. History of two pregnancies, one still-born, fourteen years previous, abortion twelve years ago, followed by curetage. Menstrual periods regular until September 15th, 1923. Patient thought she became pregnant about that time. January, 1924, fetal movements were felt. The latter part of June, fetal movement became very active for a day or more, then ceased. Cramping abdominal pains followed, with some nausea and vomiting. There is no history of severe acute onset at any time, such as would necessitate her going to bed. There is no history of any attacks characterized by chills or fever.

Physical examination: Abdomen unsymmetrically distended to the right, an almost full term fetus was palpable through the abdominal wall. No fetal heart tones heard.

Vaginal examination: A bloody mucous discharge, cervix high up and pushed to the left. Uterus somewhat enlarged, and pushed to the left side of the pelvis. The fetal head palpable through the anterior vaginal wall. The X-ray showed a full term fetus in the abdominal cavity.

Clinical diagnosis: Abdominal pregnancy, with dead fetus.

Laparotomy was done, coils of intestines and the omentum were closely adherent to the membranes surrounding the fetus. The appendix showed evidence of much pathology, and was closely adherent to the sac. The fetus was badly deformed and macerated, removed with portions of the placenta and membranes. Six large drain-

age tubes were placed in the abdomen, and the wound packed with gauze. The patient made an uneventful recovery, and was discharged in twenty-one days.

CONCLUSIONS:

I. In a woman with regular menstrual periods who has gone a few days overtime, there occurs a sudden cutting pain in the lower abdomen, so severe that she has to lie down, accompanied by pallor, subnormal temperature, and vaginal examination shows a palpable mass in the culdesac of Douglas, expect a ruptured ectopic pregnancy.

II. The symptoms of ectopic pregnancy are as variable as those of appendicitis. There is no one sign or symptom that is pathognomic. The diagnosis rests upon a group of symptoms.

III. When to operate is exceedingly difficult to decide. Some surgeons successfully operate a dangerous case, and others fail. If a case dies unoperated, it is natural to wish she had been operated. If she dies after operation, one will wish he had not operated. In extreme cases rapidity of work is essential. Pack the abdomen with five-yard rolls, and keep all sponges away. Give normal salt solution following operation.

IV. The appendix was involved in two-thirds of our cases. None of our patients gave a history of operation for appendicitis, or previous ectopic pregnancy. Each specimen was examined microscopically. The length of stay in the hospital of these patients was from eleven to twenty-one days. None have given a history of recurrence.

THYROIDECTOMY— OPERATIVE SAFEGUARDS AND INDICATIONS*

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It cannot now be said that the treatment of toxic goitre is exclusively surgical. However, surgery is by far the greatest factor in its management. But the pre-operative treatment occupies a very important field all its own and is at least largely medical. Post-operative treatment is entirely medical. The development of the pre-operative

*Read before the Section on Surgery and Gynecology, Annual Meeting, Oklahoma State Medical Association, Tulsa, May 12, 13, 14, 1925.

preparation has materially lowered surgical mortality while the careful post-operative medical care has reduced mortality as well as morbidity.

Some goitre cases are imperatively surgical, others are electively surgical. But these classes are not clearly defined and moreover the one may become the other, that is, an electively surgical case today may become a surgical imperative tomorrow. It less frequently occurs that a surgical imperative becomes a surgical elective but it does occur. The surgical imperatives are also the greatest surgical risks. All goitres may definitely be classed from the standpoint of treatment as surgical, although not surgical alone.

FUNCTION OF THE THYROID GLAND.

One of the principle functions of the thyroid gland has to do with Iodin metabolism. From the various chemical combinations of Iodin found in the blood streams it elaborates thyroxin. If a shortage of supply to the gland exists there is a physiological hyperactive response in the effort to secure the necessary systemic needs and a compensatory hypertrophy occurs. This, so far, is a universal physio-biological law. If by increased effort the gland is able to find the Iodin from which to elaborate the necessary thyroxin no symptoms are evident except possibly a visible or palpable enlargement of the gland which is designated as simple hyperplasia or hypertrophy. This fact has become so well established that it is possible to formulate it into the law that when the *Iodin content of the gland falls below one-tenth of one per cent the process of hyperplasia or hypertrophy begins.*

It follows then that the normal Iodin content of the gland is 1/10 of one per cent (Mix). This law explains the origin of cretinism. It explains also the so-called hyperplasia of pregnancy. The mother must supply thyroxin for two, if she cannot get it she gives birth to the cretin. In either case her own gland enlarges in physiological response to the increased demand upon it. This explains also the occurrence of fetal thyroid adenomata. It is indicative of Iodin insufficiency and may be obviated by Iodin feeding to prospective mothers especially in goitre endemic regions.

Surgical interest largely centers about the adenomatous gland for these furnish the surgical imperatives. The clinical dif-

ference between the simple hyperplasias and hypertrophic and the adenomata lies in the fact that the former are Iodin hungry (less than 1/10 of one per cent) the latter are Iodin-over-fed (over 1/10 of one per cent).

The Iodin plus gland may be stimulated into a furious rampage by many things, infections acute and chronic, dystrophies especially supra-renal, emotional excitation, etc.

As a working classification, I think this of Mix fits best our clinical experience:

1. Hyperplasia.
2. Hypertrophy.
3. Colloid adenomata and normally innervated and normally functioning adenomata. These are also simple goitres, but capable of becoming very troublesome upon even slight provocation.
4. Adenomata: these may be benign when normally innervated, or they may bring about symptoms of hyperthyroidism and of exophthalmic goitre.
5. Carcinomata.
6. Sarcomata.
7. Inflammation of the thyroid-thyroiditis—which very rarely is associated with abscess of the thyroid. In this condition only signs of infection appear, not signs of hypersecretion.*

For the purposes of this paper the simple hyperplasias and hypertrophies may be dismissed. Most of these are still medically remediable. Classes 5, 6 and 7 are also without the scope of the present paper. They are surgical, it is true, but not within the limits of this paper.

Class 3. The Colloid Adenomata which simple in the beginning or often throughout their entire course, may and often do, become toxic, presenting all degrees of toxicity. These cases often lead to serious degeneration of heart, liver, kidneys, etc. The surgery of the so-called non-toxic variety of these glands, that is to say, the surgery done before parenchymatous degenerations have occurred or before appearance of hyperthyroidism, is simple and safe and is not especially difficult.

These are the surgical electives. But just at this point the author desires to emphat-

*Surgical clinics of North America, June, 1924, page 691.

ically repeat what he has often said before, that in his humble opinion, based as it is upon a fairly large clinical experience, all goitres however innocent of harm they may appear to be will in time lead to parenchymatous degenerations especially of the kidneys, and myo-cardial involvements. Holding this view he therefore believes they should be considered surgical and in the absence of contra-indications surgery should be advised. This done, a large number would be safely removed and put out of the way of becoming greater surgical risks later. Pressure symptoms may force operation especially in the substernals and unsightliness may drive the patient to seek operation, but aside from this the danger of becoming toxic and of giving rise to insidious degenerations is so real that it would seem wise to advise surgery in all.

Class 4: Adenomata: These really combine two classes, those without and those with toxemia. But within this class fall that type of the disease which is acutely toxic in the very beginning, often even before the visible or palpable appearance of goitre and which are known as Exophthalmic-Graves disease.

The toxic form of these two classes constitute our real surgical problems. But the degenerations in Class 3 offer surgical problems against the risks of which a different surgical defense must be built. It is this problem which will be given consideration first. In this class we are dealing with degenerations especially of the heart muscles and valve leakages which, owing to the presence of a chronic toxemia are rarely found fully compensated. These degenerations may and often have occurred gradually over many years of time and have never had acute flare-ups of hyperthyroidism. Preliminary ligature of the thyroids will not result in improvement and is quite superfluous and will but add to the operative load put upon the patient. Such risks as these patients present, while they are very real and imminent, are medical problems altogether. In contrast to the acute thyroids who are emotional plus, these patients are apathetic. Their very lack of apprehension should put the surgeon on his guard. The anesthesia, if general, goes very smoothly. Very little anesthetic seems to be required. Without warning or premonitory sign respirations gradually grow shallower and shallower, the heart contractions weaker and weaker and

the patient is dead on the table before anyone is aware of the change.

These thyro-cardiacs require both rest and digitalization. Rest alone does not seem to bring them to a safe operability. Both rest and digitalization will convert a bad into a good operative risk.

Since these patients are not apprehensive they make ideal cases for local anesthesia to the surgeon who has mastered its technique. The writer believes that a surgeon experienced in the use of local anesthesia, will no longer question its greater safety over any general anesthetic, especially in cases of any kind where degenerations of vital organs such as kidney and heart are concerned. The surgical risk in these cases is precisely the risk that is assumed, let the degenerations have arisen from any source whatever, plus whatever of hyper-thyroidism if any there may be present.

The basic metabolism of these patients is as a rule not much, if any above normal and quite in contrast to the acute hyperthyroids, also appetite is not of the voracious type so frequently present with the latter, due to increased metabolism.

Cardiac involvement may be so far advanced that operation even after the most careful preparation will present frightful risk. Auricular fibrillation is surely a contra-indication to surgical attack. The surgeon must in the chronics as well as in the acute cases be ready to quit in any stage of the operation and return his patient to bed. For the patient who is alive, another day may come, but not to the one who is dead. In this particular class of cases the difficulty is to know just when that danger signal goes up. A competent internist at the surgeon's right hand is the best guarantee our surgical department has been able to devise. I am speaking only of course of the advanced cases. A competent watchful internist has been to us the most comforting. Speaking for myself, before, when, and after operating these cases, I am seeking the man who knows hearts. This surgery offers no field for the debonnair surgeon to practice *sang froid*.

Acute-Hyperthyroidism—Graves Disease—Exophthalmic Goitre.

In this class of cases the surgical problem is different. We are dealing with an ultimate intra-cellular acidosis. The patient is worked down—exhausted by emotional and physical overwork.

Iodin perhaps governs tissue respiration, that is, it attends to cellular oxidation and cellular elimination. So in turn it is the driving force of brain and body. Metabolism is always high in acute hyperthyroidism. Elimination breaks down—cellular accumulation occurs which, since oxidation is the actual chemical process, must mean the diminution of alkali and the retention of acids. Acid saturation to a certain point is inhibitive to life.

Thyroxine is a vitiated secretion from the thyroid gland which doubtless plays its part in choking elimination. In a way then hyperthyroidism is the manifestation of a dis-equilibrium between cellular oxidation and elimination.

No matter from what source such a narrowed alkali threshold is derived it must always be reckoned with as a surgical risk. But since these cases are emotional and since they are in every way over-driven the dread of operation itself by steaming up all the functions of the body, increased oxidation still further and suddenly encroaches upon its alkali reserve, just at the time it is most needed. The overworked heart driven by the incessant and insistent cellular cry for oxygen, may collapse.

The surgical protection of these cases then may be considered under two heads, viz.:

1. The Emotional.
2. The increase of the alkali reserve, i.e., the widening of the danger threshold.

The one has to do with the delivery of the operation itself, the other with the preparation of the patient for the operation.

Since the primary hyperthyroids show an increased metabolic rate, which of course means that oxidation is increased and acid by-products augmented, absolute rest during an attack is imperative. A radical operation must be withheld until an intermission comes about or is brought about. During this rest period is the time in which all our preparatory work is done.

It was stated a moment ago that no case with auricular fibrillation should be operated while such exists. Auricular fibrillation, while the problem of the internist, the surgeon should know that it is often directly the result of acute hyperthyroidism and will be permanently relieved only by thyroidectomy. These cases are to be classed in operative preparation with the

other cardiac cases and may for practical purposes be termed thyro-cardiacs. The major point in all is that all are in a state of cardiac decompensation which decompensation is brought about in the one case by degenerations due to chronic processes on the one hand and on the other by acute toxemia and both will be resistant to medical treatment until the underlying hyperthyroidism is relieved. In the acute cases, i.e., Exophthalmic, the relief is immediate and marked following operation in the chronic cases with degenerations surgery alone may be very disappointing. All of them besides rest must be medically treated. In the chronic thyro-cardiacs the hyperthyroidism is very apt to be concealed beneath the striking and imminent threat of cardiac failure. Especially is this true because the very striking over-activation of the acute cases is absent. Quite the opposite is true. They are really our most dangerous cases. In both of these classes a competent cardiologist is a necessity in the pre-operative preparation.

Another deceptive factor in many of these acute cases is that there is no demonstrable goitre. The entire symptomsyn-drome may be set in motion and be both typical and atypical without appreciable enlargement of the thyroid gland.

Iodine has of late aroused a great deal of interest not only as a pre-operative preparatory measure but by its enthusiasts as a curative agent as well.

No doubt can longer exist that it is completely prophylactic and that it is curative in the iodine starving pregnant woman and in very many of the adolescent diseases of the gland but while admitting its value as a pre-operative measure we are not yet prepared to say that in the acute cases it can be substituted for the graduated operation. The great advantage of the latter is that it furnished us an operative test of the patient. Operative surprises even where the metabolic rate is low and seemed to indicate a wide threshold are not few in number.

Digitalis given under the direction of a competent cardiologist has a most useful function in decompensations from any cause and in both the acutes and chronics, as well as the fibrillations.

Our experience seems to prove that ligation of the arteries is of benefit only in the acutes in which it hastens an intermission at which time only should a thyroidectomy be attempted.

Irradiation we have come to believe has now no place in preparation and it is far more uncertain as to permanent benefit than surgery. Also it most certainly adds to the operative difficulties.

The Psychic element is real though imponderable. Our laboratories have no scales that can weigh the gossamer fabric of the mind. But fright and dread are very real things and are even potent enough to kill. While the acute hyperthyroid is courageous they are intensely apprehensive. Literally they are living fast. The chords upon which life's music plays are strung tight, pitched high and must be played upon with fingers that touch lightly or they may snap. A confidential relation between patient and physician must be secured and maintained. Be truthful but tactfully so. "When in doubt tell the truth," one of the aphorisms of Puddin Head Wilson is surely applicable. We have "stolen" but few goitres and these with no special satisfaction. The patient may be tested in various ways under the guise of treatment. The anesthetic can also be tested out. It has been truthfully said that the very first ligation is the supreme test. Safely by that and one can feel that the ground under foot is fairly firm. We have found polar, to be superior to vessel ligation although it adds somewhat to operative difficulty.

It would seem that in the immediate preparation scopolamin would be ideal because of its obtunding effects but in our hands it has often led to trouble more especially a wild delirium in which patients have been unmanageable hence we have abandoned it although we have had no deaths attributable to the drug.

The *anesthetic* we deem of great importance. Often if a general is decided upon we try it out for one or more seances before operation. We think gas and oxygen superlatively safer than ether in these cases if expertly given. An expert only should be permitted to give anesthesia in these cases no matter whether the anesthetic be gas or ether. The anesthesia must never be profound. Personally we reinforce the gas-oxygen with a liberal use of local and never push the general beyond the stage of analgesia.

For several months we have been using local alone, first securing the patient's active cooperation,

In the degeneration cases, that is in the chronic thyro-cardiacs we believe this is by far the safest. Moreover, since these patients are usually apathetic they make good subjects for local. But we have also had good results with it in the acute Hyperthyroid (Exophthalmics).

The operation itself should proceed gently but expeditiously. Conversation, except between the surgeon and the patient, when using local, should be eliminated. Upon the least evidence of danger, the operation should be suspended at whatever stage it may be and the patient returned to her bed to be reacted.

The imminent danger as we see it in our clinic has to do with the heart. Very nearly all these cases become thyro-cardiacs before coming to surgery. In the very toxic (exophthalmic) cases cardiac involvement is rapid, in the ordinary adenomata more slowly. In the former the very narrow alkaline reserve due to high metabolic rate comes in also to consideration. If the anesthetic and the operation burn this out the patient sinks into exhaustion and dies within a few hours or days.

Post-operative care should be exercised in two directions in all cases. First quiet rest secured if necessary by morphine. Second, a liberal supply of fluids with as early feeding as possible. The highly toxic cases present another danger, that of post-operative thyro-toxic intoxication, acute post-operative hyperthyroidism. In this condition intense hyperpyrexia comes on rapidly and the patients quickly burn out their thin alkali reserve. In such cases I am a firm believer in Crile's ice pack. But the patient so packed must be carefully watched and the ice removed when the temperature subsides to 100°.

How much gland shall we remove? In the nature of this disease there can be no mathematical rule. On the principle that we can remove more at any time, but can never put any more back we have erred on the side of removing too little.

The acute cases will do well with a remnant of 1/6 of the gland. At the present time surgeons of experience seem fairly well agreed upon this amount of functioning thyroid as sufficient for all somatic needs. By and large this must remain a matter of surgical judgment.

INJURIES OF THE SPINE*

S. R. CUNNINGHAM, M.D., F.A.C.S.
OKLAHOMA CITY.

Your program committee has asked me to present the subject "Injuries of the Spine".

This subject is too large to present in one short paper or to confine to one evening. Far better would it have been for us to have chosen one portion of the spine,—say for instance, the cervical spine or possibly better, "Injuries to the first Lumbar Vertebra with resultant Complications". Or possibly more interesting would have been a paper on "Injuries to the Spinal Vertebra with Nerve Root Lesions Affecting the Bladder and Rectum," because of the frequent association; and again what an interesting topic would have been "Abnormalities of the Spine," since it is too common to find irregularities in the number of vertebrae and also many congenital defects, the majority of which go unnoticed.

In this paper, I will not discuss osteoarthritis of the spine because I have never seen a fracture or fracture dislocation or any other trauma produce a progressive osteoarthritis. Neither have I ever seen a case of productive arthritis (Hypertrophic Spondylitis) that I could trace to a trauma.

During the last few years, we have learned that fracture of the spine is much more frequent than was previously supposed, and we have learned in the same time, that much more can be done for spine injuries than was previously attempted. In order to get before you the relative frequency of fracture of the spine, I report the following:

From January 1, 1921, to July 1, 1925, I examined and cared for 1576 fractures; of this number 61 or 3.8 per cent were fractures of the spinal vertebrae. The oldest of these was 62 and the youngest 16 years of age. In the mining districts, and in shipyards and lumber camps, the percentage of fractures of the spine is higher than it is here where my clientele is drawn largely from less hazardous employment and from automobile accidents. Several of these, however, came from the oil fields.

Many injuries of the spine do not give the cardinal symptoms and it is only by routine use of the X-ray and by careful physical examination, that we recognize them. A surprisingly large number of fractures of the spine are apparently entirely free from cord or nerve root symptoms. In fact, in studying the old disabling fractures, one finds that the disability is due, in a large majority of cases, to an interference with the weight-bearing function of the spinal column and not to concomitant damage to the cord or nerve root. It is imperative, therefore, that an early diagnosis be made and a treatment instituted that will insure the future weight bearing function of the spine. Many patients having fractures of the vertebrae reach maximum disability many months or even years after the injury; some because of delayed nerve root sequella and others as the result of disintegration or collapse of the vertebral body because of lack of proper support.

The skull has the one function of protection to highly specialized tissues, therefore fractures of the skull are serious only in so far as that function is interfered with, whereas fractures of the spine are serious because of the loss of protection and because of possible loss of support.

Fractures of the spine may be divided into two large groups: 1st. Compression fractures of the vertebral bodies or indirect fractures; 2nd. Direct fractures.

These two divisions then may be classified as to anatomic location of fracture and fractures with or without paralysis.

The first, compression fractures, is usually due to acute hyperflexion and the second, as the name implies, to direct force. Injuries to the cord and nerve root are more common in the latter. There are a few cardinal symptoms of fracture of the spine. The one constant and important symptom is localized pain and tenderness found directly over the spinous process indicating fracture of the body of the vertebra. If the pain and tenderness be at one side or the other, it indicates most likely fracture of the transverse process, especially if it be in the lumbar region. Deformity, manifest in a kyphosis of varying degree is nearly always present. The lumbar physiological curve is flattened. Disalignment may also be present. The final and most convincing proof however, is the X-ray film. Do not be content with

*Read before Oklahoma County Medical Society, Oklahoma City, December, 1925.

one X-ray view, anterior-posterior or lateral, for often repeated lateral and diagonal views are necessary.

It is true that a consideration of injuries to the spinal column (like fracture of the skull) is dominated by the possibility of associated injuries to its contents. However, my observation of a great many cases has proven to me that the amount of nerve and cord injury does not depend upon the extent of bone injury.

The relative frequency of individual vertebra involved in this group of 61 cases, is shown as follow:

I.....	0	} 15 Cervical
II.....	1	
III.....	0	
IV.....	4	
V.....	6	
VI.....	4	
VII.....	0	
I.....	0	} 22 Dorsal
II.....	0	
III.....	0	
IV.....	0	
V.....	1	
VI.....	0	
VII.....	2	
VIII.....	0	
IX.....	3	
X.....	1	
XI.....	7	
XII.....	8	
I.....	11	} 24 Lumbar
II.....	9	
III.....	2	
IV.....	1	
V.....	1	
TOTAL.....	61	

In this series, the segment most commonly injured is the first lumbar; second, the second lumbar; third, the twelfth dorsal; fourth, the eleventh dorsal; fifth, the fifth cervical; sixth, the fourth cervical.

In injuries to the cord, it is important to determine the extent and the exact location of the damage. A patient is before you for examination, who has had a recent accident. If he is lying on his back unable to stir and complains of pain anywhere along the spinal column, he likely has lost the supporting power of the spine or has an injury to the spinal nervous system, or possibly suffering from both. Beginning at the upper extremities, there are certain positions assumed by the patient

that are characteristic of lesions in a definite location. If the arms are movable down to the finger tips and the patient can adapt them to any position desired, the injury (if one exists) is likely to be below the first dorsal segment. If the hands are held closed, the elbows flexed and the forearms moderately pronated on the chest, there is an injury about the level of the seventh cervical vertebra. If the arms are above the head and rotated outward with the fingers semi-flexed, the forearms supine and the elbows bent, the lesion is in the sixth cervical segment. In this instance, there is blocking of the nerves to the subscapularis, pectoralis major and minor and pronators and triceps.

If the arms lie prone to the side and are completely paralyzed, the damage is to the fifth cervical segment and the nerves to the deltoid, biceps, supinator and supra and infra spinatus are damaged. Any severe damage involving the third, fourth and fifth cervical segments affects the phrenic nerves and is likely to soon prove fatal.

Paralysis of the pupillary control with contracted and fixed pupils indicates involvement of the sympathetic branch from the first dorsal segment.

So much for the cervical vertebrae and the first dorsal.

Lesion of the second, third, fourth, fifth, sixth, seventh and eighth segments are infrequent and less serious, unless severe damage is done to the cord.

Injuries to the eleventh and twelfth dorsal are most apt to be very disabling because of destroying the supporting power of the spine as well as possibility of cord and nerve root injuries.

When there is considerable damage to the first or second and particularly to the first lumbar vertebrae, there is the added danger of serious injury to important nerve roots. These two vertebrae, because of their peculiar position in the column, are most often injured in both direct and indirect fractures.

When the lower dorsal or the upper lumbar segments are injured, any nerve root or cord complication (if such exists) may affect the bladder and bowel and the lower extremities. Sometimes the bladder alone, seldom the rectum alone. Oft times there is nerve disturbance in one or both lower extremities and neither the bowels or bladder.

A severe injury to any segment must necessarily affect several roots simultaneously because of the intimate relationship, and too, the sympathetic rami are often simultaneously involved and the influence of the sympathetic system upon the peripheral nerves is not generally well understood.

Treatment: Under treatment, let us first divide our cases into two classes:

First. Injuries to the spinal column without serious cord or nerve root injury. Second. Injuries to the spinal column with serious cord or nerve root complication.

Now, under the first division, injuries to the spinal column without serious cord or nerve root injury, treatment is extension and fixation. For the second division, injuries with serious cord or nerve root injury, treatment is the same, extension and fixation with surgical attempt to relieve bony pressure at the site of injury in a certain selected few cases.

Open surgery is not justifiable except in certain severe paralytic conditions where a laminectomy can be done to relieve pressure. The one determining factor to me is not (as some put it) serious paralytic symptoms, but *increasing symptoms*.

A case having increasing symptoms should have the benefit of a laminectomy as early as the patient is a good surgical risk.

The relationship between the spinal nerve roots and the sympathetic rami is not generally understood, except anatomically, therefore the syndrome in these cases appears not to be consistent because of the inability to definitely and accurately define the seat and extent of the injury.

Excepting as above stated, my plan is as follows in nearly all cases:

In the cervical region, head extension with the patient on the back with a pad beneath the neck. This to be followed by plaster of paris or metal extension brace. The dorsal and lumbar extension and fixation is accomplished by placing the patient in position to over-correct of kyphosis and application of plaster which is to be followed by well fitted Taylor brace when the time is propitious.

Prognosis: Very good as far as life and death is concerned and good as far as return to reasonable function is concerned and fairly good as far as full function is concerned.

Of the 61 cases used in making the above deductions, four were operated; four have died (2 of the operated ones); two are hopeless cripples; all the others are engaged in useful and productive occupation. Several doing hard manual labor.

The five cases I have here to show tonight represent some of the types of fractures I have described and demonstrate most forcefully the absolute necessity for careful diagnosis and for prompt and well directed treatment. Two are cases of cervical vertebra fractures; and the others show complications following fracture of the lower dorsal and upper lumbar segments.

The first case is that of a young man, C. B., age 18, high school football player. He was admitted to State University Hospital on October 16, 1924, six days after an injury to his neck while playing football. He showed the characteristic symptoms of damage to the fifth and sixth cervical segments. The head was held forward and had a rather ill defined kyphosis in the back of the neck. As he lay on his back, his arms were above his head and rotated outward with the fingers flexed. He required the head of his bed elevated because of difficult breathing. X-rays made at the time are shown here. The angulation at the fifth and sixth is considerable. The superior articular processes of the sixth appear to be broken off, at least there is great displacement of the sixth vertebra forward. Other X-ray films shown here were taken at subsequent times showing progress. He was treated by head extension for several weeks after which the head and neck brace made by my brace maker was worn for several months. This young man is now in the university preparing to study medicine.

The next case I present is a very unusual one. He is a colored boy, C. C., age 29, six feet two inches tall and very muscular. On October 31, 1925, he fell from an auto wrecking car landing on his head on a concrete floor. I saw him in the admitting room at the State University Hospital only a few minutes after the injury. He had a rather extensive scalp wound, which, to the admitting interne, appeared to be his major injury. The patient was very restless—throwing his body about but leaving his head nearly motionless. His right arm, flexed at the elbow was above his head and rotated outward with the fingers flexed. His left arm was being thrown about at

will. I made a diagnosis of damage to the cervical spine with nerve root involvement. He was carefully placed on the X-ray table and anterior, posterior and lateral views made. I interpreted the films as fracture of the fifth and sixth cervical vertebrae without displacement. These films are excellent ones and were thought by some who viewed them not to show any solution of contiguity or continuity. The patient was put to bed and sand bags placed about his neck and head. He was kept in bed 11 days during which time he apparently made complete recovery from pain and shock and was thoroughly comfortable. His arm and hand regained normal position and function. He was dismissed to his home. I was apprehensive and after a few days hunted him up. I learned that he had been thoroughly comfortable for ten or twelve days after leaving the hospital. After riding in an automobile he noticed pain and deformity in his neck, but no return of the pain or paralysis in the arm or hand. I had him readmitted to the hospital and X-rays made. The fifth cervical vertebra had collapsed forward making an almost incredible angulation. He was placed in bed on a flat mattress with a firm pad beneath his neck and twenty-five pounds' extension applied to his head by use of this head extension apparatus designed by Dr. John L. Porter of Chicago. It is simple and comfortable. In three days' time other X-rays were made showing, as you see, complete readjustment of the vertebrae. The plaster head and neck support he is now wearing was applied on that day, December 3, 1925.

ABDOMINAL HEMORRHAGE, LAPARATOMY WITH RECOVERY

A. G. COWLES, M.D., F.A.C.S.
ARDMORE

This case is reported more from the viewpoint of its unusual complications and uneventful recovery than for any complimentary surgical dexterity or technique.

Case: R. J. Boy, age ten (10) was at play, ran across street after a baseball and a light coupe ran over him. Both wheels passed over the abdomen (at fairly slow rate of speed but with brakes set trying to stop).

He was immediately brought to the hospital, arriving at 5:30 p.m., and on exam-

ination showed the following. Forehead and nose skinned. Simple transverse fracture of left humerus at junction of upper and middle thirds. He complained of severe cutting pains in the abdomen, had a grunting respiration, eyes a very worried anxious look, with general marked abdominal rigidity. Heart rapid, no murmurs, pulse rapid, weak and thready but regular, 120 to minute, lungs normal.

Abdomen, very rigid, some distention, increasing dullness in both flanks. Severe pains in right lower quadrant. At 6:30 p.m., condition was some worse. Pulse 120, blood pressure S/80, D/50, urine voided, clear, no blood.

Diagnosis: Abdominal hemorrhage, probable rupture of some organ, advised immediate laparotomy.

Operation: 7:30 p.m., gas-oxygen, ether anesthesia. High right rectus incision. When peritoneum was opened there was a gush of blood (fluid and clots in large quantity).

Saline laparotomy sponges inserted and excess of blood sponged out. On inserting gloved hand a loose mass was felt in right iliac region, and on removal it proved to be a large mass of liver tissue, size of a fist, apparently from dome or top of the liver.

On account of the apparent hopelessness of the case rapid shallow respirations, pulse rapid and weak, skin pale and clammy, the wound was hurriedly closed and the patient put to bed. Time consumed 15 minutes. General measures were instituted, Sedatives of heavy doses of morphine to keep at rest. External heat. Proctoclysis of 5% glucose and soda bicarb., etc.

The little patient made a gradual and uneventful recovery, no nausea or vomiting, wound healed by first intention, and six weeks after the accident he was playing around the yard at home. On this date three years later has had no apparent trouble that could be traced to the accident.

Conclusions: This case goes to show that no case in either surgery or medicine is absolutely hopeless and efforts should be instituted for relief, even in the face of apparent failure.

That severe liver injuries do recover, and hemorrhage from the latter may stop spontaneously, even if the bleeding part is not packed, sutured or ligated.

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EDITORIAL

JABEZ NORTH JACKSON, PRESIDENT, AMERICAN MEDICAL ASSOCIATION

All of the medical profession of Oklahoma rejoices in and feels pride over the recent election of Dr. Jabez Jackson as President of the A. M. A. Perhaps no other living man has as many disciples of medicine in our State as has Dr. Jackson. It is estimated that there are now practicing in Oklahoma several hundred physicians, former students of this brilliant surgical authority. Dr. Jackson has spent a useful and busy life, not alone in shaping his own career to the very high

point of professional attainment he has reached, but he has passed his worth and experience and knowledge along to all others whenever and wherever opportunity presented, with the result that we have in our State many very fine surgeons who had their inspiration from attendance at his clinics and classes in Kansas City. His first great achievement, one which made his name known the world over, was the perfection of such technic in removal of the breast, that "Jackson's Breast Operation" became the one of choice whenever it could be performed. Oklahoma extends its greetings and felicitations upon this occasion.

—o—

THE DALLAS MEETING

Dallas and the Southwest, especially Texas, Oklahoma and Louisiana did themselves proud upon the occasion of the recent A. M. A. meeting. More than four thousand physicians had registered at the close of the fourth day. Four hundred and twenty-seven Oklahoma physicians registered according to the records of the Daily Bulletin. Indications were that next to Texas, Oklahoma showed the largest number registered, Illinois was the nearest competitor for the second place, with 182.

The scientific sections were fully up to, if not superior to those shown at any previous meeting, while the commercial exhibit was second to none heretofore seen. Several thousands of attendants had the opportunity and attended a monster barbecue, probably the first the great majority ever enjoyed or ever will enjoy again. Notwithstanding the rainy weather accompanying this feature, the attendance was very large. The various clubs, civic organizations and the citizens generally vied with each other in extending hospitality and welcome to the last degree of excellence and perfection. Several hundred former medical officers of the World War attended a remarkably fine military dinner at which many notables in American Medicine were present and the toasts were of that scintillating brightness and fineness, which leave with the hearer the regret that they could not be indefinitely continued.

Oklahoma was represented in the House of Delegates by Drs. McLain Rogers, W. Albert Cook and L. S. Willour. The 1927 Annual Session will be held in Washington, D. C.

VACATION TIME.

A very respectable number of Oklahoma physicians, with their families, annually plan and take more or less of a vacation. With some of our members this getting away from their labors is observed with clock-work regularity and system, as religiously adhered to as the routine of their daily life.

The place to go upon such vacations is often one of perplexing decision. Many have exhausted the novelty of the various mountain and lake resort countries and are now casting about for new fields to invade, new scenes to visit and new types of diversion, not heretofore observed and enjoyed.

The writer has for years believed that few of our members are acquainted with the possibilities of Eastern Oklahoma and Northwestern Arkansas as easily accessible and satisfactory playgrounds. The territory in mind does not call for costly expenditure or extravagance unless one is so inclined, but its beauties may be seen and enjoyed with relatively small outlay. Much of the country is now fairly well supplied with summer hotels and boarding houses, it is abundantly supplied with beautiful streams abounding with fish, which offers to the sportsman a field equal to any offered by any section within hundreds of miles of Oklahoma. Practically all of this country is unposted and free from the usual vexatious restrictions and limitations of many of the so-called "resorts" which have been disappointing to visitors. Anyone of a series of beautiful streams offer hospitality and restful freedom to the visitor. Among these worthy of mention and which will repay the time of a visit are the Grand, Cowskin, Honey Creek, Spavinaw, Illinois, Kiamichi, Little River, Glover, Mountain Fork, all of which, with other and smaller tributary streams flow in a general Westerly and Southeasterly direction from about the line of Arkansas.

Of course everyone should take some sort of rest from the grind of daily work if possible. We believe that the suggestion above will prove worth while to the mass of our members.

Editorial Notes—Personal and General

DR. J. A. BURNETT, formerly of Crum Creek, has moved to Dunbar.

DR. FRANK A. MILLER, Hartshorne, has moved to Amarillo, Texas.

DR. E. P. NESBITT, formerly of Wagoner, has moved to the Palace Bldg., Tulsa.

DR. F. E. SADLER, Henryetta, has been appointed city physician of Henryetta.

DR. S. C. HAMM, Haskell, has returned from a six week's post-graduate course at New Orleans.

DR. W. E. FLOYD, Muskogee, has been appointed City Superintendent of Health, vice Dr. F. W. Ewing.

WOODS COUNTY MEDICAL SOCIETY claims that every eligible physician in the county is a member of the society.

TULSA COUNTY MEDICAL SOCIETY met April 26th, and the following committee was chosen to represent the society at the state meeting at Oklahoma City in June, for the revision of the new constitution and by-laws: Drs. W. Albert Cook, George R. Osborn and C. T. Hendershot.

GOLF AT THE ANNUAL MEETING.

A golf tournament for members of the State Association is being arranged for June twenty-first at the Oklahoma City Golf & Country Club. There will probably be several classes and prizes for each.

Date, Monday, June 21st. Green fees, one dollar per person. It is the tentative arrangement to give three moderate priced prizes for the three lowest net scores and the three lowest gross scores. Hand in your home course handicap to the professional before you tee off. Eighteen holes all played any time during the day at the Oklahoma City Golf and Country Club, Oklahoma City. Mr. Dudley, the professional, will be in charge. It is requested that those intending to play send in their names prior to June 21st to one of the Committee.

DR. ANTONIO D. YOUNG

DR. E. S. FERGUSON

DR. E. L. YEAKEL

Committee.

DR. J. W. FRANCISCO, Enid, has returned from a two weeks' post-graduate course at Kansas City.

DR. G. R. GORDON, Wagoner, has returned from Rochester, Minn., where he had gone for medical treatment.

DR. W. M. GALLAHER, Shawnee, was elected president of the Shawnee Rotary Club at its annual meeting in March.

DR. I. C. WOLFE, Muskogee, has been appointed City Physician, taking the place of Dr. Charles E. White, resigned.

DR. J. W. SOSBEE, Gore, has announced his candidacy for the Democratic nomination to the legislature for Muskogee County.

DR. and MRS. J. M. BYRUM, Shawnee, are touring Mexico on a fifteen day excursion, following the A.M.A. meeting at Dallas.

ST. JOHNS HOSPITAL, Tulsa, is now running with a capacity of about 80 beds, with more in demand, which are promised by the Sisters about June 1st.

DR. FREDERICK DOWART, of Newport, Pa., has located in Muskogee and is associated with Drs. F. B. and William P. Fite. Dr. Dowart is an internist.

DR. H. D. SHANKLE, Hartshorne, returned recently from a six weeks' trip to Havana and the Canal Zone, attending the A.M.A. meeting at Dallas on his way home.

DR. and MRS. R. Q. ATCHLEY, Tulsa, will leave Tulsa about June 1st for New York, to sail for Europe, where the doctor will attend clinics at Vienna and Budapesth, returning in the Fall.

TULSA COUNTY MEDICAL SOCIETY voted to take space at the Tulsa County Fair for the purpose of bringing to the public a movement of the A.M.A. in regard to the exploitation of the public by the patent medicine interests.

DR. RALPH V. SMITH, Tulsa, was married April 27th, to Miss Ruth Dunlop, of Tulsa. Dr. and Mrs. Smith are spending their honeymoon at El Paso, Texas, where Dr. Smith is attending a two weeks course at the Medical Reserve Officers Training Camp.

HUGHES COUNTY MEDICAL SOCIETY met in regular session at Holdenville May 5, and elected the following delegates to the annual meeting: Drs. J. F. Musser, Calvin; S. H. Hamilton, Non; alternates: Drs. T. B. Felix, Holdenville, and C. A. Hicks, Wetumka.

TULSA COUNTY MEDICAL SOCIETY is planning a Medical Arts Building of not less than 12 stories on one of the three corners in the business district within the next year according to plans discussed at a meeting of the Society April 12th. A building committee was appointed including Drs. V. K. Allen, Harry Murdock, F. Y. Cronk, and two dentists, Drs. Orrin McCarty and E. F. Woodring.

DR. FRANK H. MCGREGOR, Mangum, was elected president of the Medicine Park Company, at a recent meeting of the stockholders.

DRS. EARL D. McBRIDE and WILLIAM H. BAILEY were members of the Oklahoma City "Good Will" excursion train to Amarillo and other Texas and Oklahoma cities.

GARFIELD COUNTY MEDICAL SOCIETY has arranged with the extension department of the University of Oklahoma for a series of lectures and clinics this summer, to be given by Dr. Ralph Thompson, St. Louis, of the school of medicine of Washington University.

ALFALFA COUNTY MEDICAL SOCIETY met April 13th at Helena, reporting a well attended session. The program: Ptosis of Right Side (Colon) by Dr. Frank A. Hudson, Enid; Malignancy, by Dr. H. A. Lile, Cherokee; Vomiting Gall Stone, by Dr. Howard M. Wheeler, Helena, and Hemorrhage of Bladder, by Dr. J. H. Hays, Enid.

OTTAWA COUNTY MEDICAL SOCIETY met in April with an attendance of 22 members at Camp Medical on Cowskin River. An interesting paper on "Local Infection" was read by Dr. J. W. Craig, and ably discussed. Plans were made at the meeting for each member to erect a summer cabin at the camp and lots were awarded each member of the society at the close of the business session.

DR. H. C. RICKS, Oklahoma City, representing the State Board of Health, read a paper before the Muskogee County Medical Society May 10. He stressed the necessity for uniformity and precision in methods of securing the various pathological specimens commonly examined by the State Laboratory and urged proper care in securing such specimens and transmitting them.

INVITATION FROM THE OKLAHOMA COUNTY MEDICAL SOCIETY.

The Oklahoma County Medical Society extends to the members of the Oklahoma State Medical Association a most cordial invitation to attend the Annual Meeting of the Association to be held in Oklahoma City, June 23, 23, and 24th. They especially ask that an effort be made by every member to attend this meeting so as to assist in making it one of the most successful and largely attended in the history of the Association. The Committee on Arrangements is already organized and working and is making plans to entertain you and to give you an interesting and valuable three days.

BUREAU OF MATERNITY AND INFANCY STATE DEPARTMENT OF PUBLIC HEALTH OF OKLAHOMA

LUCILE SPIRE BLACHLY, Director

Explanation: Since the copy on May Day—Child Health Day—meant for the April issue of the Journal arrived too late for publication, we have ask Dr. Puckett to write on Birth and Death Registration. The June issue will carry an article relative to the May Day festivities and the "Summer Round-Up of Children."—L.S.B.

BIRTH AND DEATH REGISTRATION

The Bureau of the Census is to make a check on the birth and death registration of Oklahoma the coming summer. To meet the standard required by the Federal Government which would enable us to receive their recognition and become a part of the Registration Area of the United States, ninety per cent of all births and deaths that occur must be recorded. There are many advantages in becoming a part of this Federal Registration Area.

Proper attention to the question of vital statistics is an evidence of the general intelligence of any state. The recording of births and deaths is a regular function of all civilized governments, therefore it would seem that Oklahoma should desire to take her place with the rest of the country. One great advantage in this Federal Recognition is that we will be permitted to carry on our correspondence in connection with this work under the franking privilege. This will mean the more accurate collection of data and information necessary to make these statistics useful with considerable less expense both to the state and physicians. We are pleased to advise that there was an increase in birth registration of more than 30 per cent in 1925 over that of 1923 or since the beginning of the present administration of the Department of Health and of death registration of 5 per cent increase during the same period. Yet we are still below what we should be in our general registration.

It should be especially gratifying to the profession that of the 56,175 births recorded in 1925, 54,700 were attended by physicians. In other words less than 1600 were attended by midwives. This is an indication that the people of this state appreciate their physicians. The Bureau of Maternity and Infancy is earnestly striving to see that all mothers be properly attended in child birth. This Bureau deserves the support of all physicians and laymen in this organized effort. It is a source of considerable pride with the Department of Health that we can point to the figures and show that Oklahoma has only a minor midwife problem as compared to most other states.

But midwives are reporting better all the time and the above percentage will not look favorable unless all physicians report their births. We trust it may never be said of Oklahoma that she has any physicians capable of attending a woman in childbirth who is less alive to his responsibility to his patient, state and community than these midwives, who have learned that reporting of births is an evidence of the recognized duties of citizenship. With a better recording of our deaths we must increase our birth registration to prevent our infant mortality from appearing high in certain communities which may be a reflection on the ability of the physicians of that community.

To the physicians of Oklahoma we are deeply grateful for their cooperation in the past. It is our earnest desire to merit their friendship and support. In return we shall try to creditably represent the profession before the people of this state and to serve Oklahoma well through its physicians and allied professions.

CARL PUCKETT,
State Health Commissioner.

NEWS ABOUT THE STATE MEETING

Dr. Carroll M. Pounders, chairman of the Committee on Information, Registration, and Badges, with his committee for the State Medical Meeting in June has arranged for an Information Desk to be presided over by the Public Health Nurses of Oklahoma City, who gave us such efficient and valuable assistance two years ago. The Registration Desk will be placed in the same room with the Commercial Exhibits. Plenty of badges will be provided so that everyone registering may secure one.

Dr. Horace Reed, chairman of the Committee on Meeting Places, has selected a committee of "live wires" who will take care of the needs of each Scientific Section and supply them with lanterns, blackboards, etc., as they may require. This is a rather thankless job but is a most important one and adds as much as any other one thing to the success of the meeting. One man will be assigned to each section for which he will be responsible.

Dr. A. J. Sands, chairman of the committee on Clinics, has selected a committee consisting of one representative from each hospital and they will arrange a list of clinics, both medical and surgical, to be held on the first two days of the meeting. A detailed schedule of these clinics will be posted on the bulletin board at the Information Desk each morning and mimeographed sheets are to be available for distribution at the Registration Desk. Arrangements are also to be made for the Oklahoma City doctors and others who have cars to drive by headquarters each morning and pick up a load going to the different hospitals for the clinics.

Dr. J. B. Eskridge, chairman of the committee on Finances, and his corps of assistants are making the rounds early, in order to collect the necessary "where-with-all" to cover the budget before the weather gets warm and the men begin to think about their fishing trips.

Dr. Rex Boland, chairman of the committee on Entertainment is planning on the best "bang-up" President's Reception and Dance in the history of the Association. This reception is to be given the evening of the second day, Wednesday, June 23rd, and will be the big social stunt of the meeting, in which everyone is expected to be present. Any one who has ever enjoyed one of the "Social Affairs" that Dr. Boland has arranged knows that this will be a "Head Liner". His committee will also help in arranging parties for golf the afternoon of the last day, if any of the members wish for recreation along that line. Dr. A. D. Young and Dr. E. L. Yeakel, our local members of the Times "Hole-in-One" Club are always open for engagements.

Mrs. E. P. Allen, chairman of the committee from the Ladies Auxillary and President of the Ladies Auxillary of the Oklahoma County Medical Society, with her committee are arranging a full program for the entertainment of the visiting ladies. The morning of the second day, Wednesday, a meeting will be held at the University Club in the Skirvin Hotel at which time a Ladies Auxillary of the State Medical Association will be organized.

At noon of the same day there will be a Buffet Luncheon served to all the visiting and Oklahoma City ladies. Wednesday evening all the ladies are expected to be present at the President's Reception and Dance which will be the main social feature of the meeting. Besides these activities there will be Shopping Tours, Private Dinner Parties and Automobile Rides. It is especially requested that as many of the doctor's wives as possible accompany them to the meeting this year to help in organizing the Ladies Auxillary of the State Association.

Dr. Wm. H. Bailey,
Chrm. Com. on Arrangements.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M. D.
717 North Robinson St., Oklahoma City

AFFECTION OF THE HEEL.

A painful heel is about the most disabling affection of any minor ailment. A classification of these conditions may be made as follows:

1. Cellulitis.
2. Bursitis.
3. Periostitis.
4. Epiphysitis.
5. Teno-synovitis.
6. Exostosis.

7. Fractures.

Cellulitis is usually the result of shoe irritation. It is distinguished by its superficial appearance and the association of a blister.

Bursitis occurs at a sharply defined point over the calcaneal tubercle or posteriorly at the attachment of the heel cord. Pain is elicited on deep pressure at these points. There may be some swelling and even fluctuation, but seldom any superficial redness. It is due to (1) focal infection, (2) unusual strain on the plantar muscles, (3) gonorrheal infection, (4) trauma.

Periostitis (stone bruise) may be hematogenous or traumatic. Swelling is not marked but tenderness and pain is often severe. It is most marked at the attachment of the heel cord. If infectious,

REPORT OF EXAMINATION FOR LICENSES TO PRACTICE MEDICINE

OKLAHOMA BOARD OF MEDICAL EXAMINERS

Report of examination held at Huckins Hotel, Oklahoma City, Okla., March 9th and 10th, 1926; number of subjects examined in, 12; total number of questions, 120; percentage required to pass, 75; total number examined, three; number passed, three; number failed, none. The following applicants passed:

NAME	Year of Birth	Place of Birth	How Licensed	School of Graduation	Year of Grad.	School of Prac.	Home Add. or Previous Location
Nelson, Ivo Amazon	1894	Brazil, S. Am.	Examin.	Univ. of Okla.	1925	R	Enid
Draper, Leonidas							
McFerrin	1898	Clayton, N. C.	"	Univ. of Maryland	1925	R	Okla. City
Rice, Edgar Eugene	1899	Allison, Ill.	"	Northwestern	1925	R	Shawnee
Campbell, Cyrus		Newton Co., Ark.	Re-regis. Act 1908	Under-Grad.	—		Cove, Ark.
Anderson	1875						
Hill, Chester Lee	1874	Canton, Ga.	Re-regis.	U. S. Grant Univ.	1900	R	Tulsa
Morland, Anna B.							
Bonebrake	1877	Oak Grove, Ia.	"	American Med.	1907	R	Maud
Cochran, Claude		Neosho Falls, Kan.	Recip. Ill.	Ill. Med. Col.	1923	R	Okemah
Malcolm	1890						
Coker, Battey Belk	1898	Rome, Ga.	" Tenn.	Vanderbilt Univ.	1924	R	Durant
Davis, William Walter	1887	Nocona, Tex.	" Tex.	Tex. Christ. Univ.	1911	R	Davidson
Edgerton, George		Plattsmouth, Neb.	" Tex.	Univ. of Tex.	1910	R	Hugo
William	1887						
Hamer, Tristman Bethea	1871	Little Rock, S. C.	" Tex.	Vanderbilt Univ.	1892	R	Roff
Keck, Henry Manford	1888	New Harp, Tex.	" Ark.	Univ. of Ark.	1918	R	Keota
Kline, Philip	1891	New York City	" Neb.	Univ. of Neb.	1919	R	Tulsa
Pease, Chester Isaac	1865		" Iowa	Rush. Med. Col.	1889	R	Calumet
Reed, Allen Trousdale	1863	Sherman, Tex.	" Tex.	Ky. Sch. of Med.	1890	R	Hastings
Shivers, Ernest Eraine	1881	Boyle, Miss.	" Miss.	Univ. of South	1901	R	Wilson
Sippel, Mary Edna							
Darland	1893	—, Iowa	" Kan.	Univ. of Kan.	1915	R	Tulsa
Standifer, Orion Cecil	1896	Eolion, Tex.	" Tex.	Univ. of Okla.	1924	R	Elk City

The next meeting of the Board will be an adjourned session, which will be held in the Senate Chamber of the State Capitol, June 15th and 16, 1926, for the purpose of conducting examination. This will accomodate the graduating classes of medical colleges this spring.

there is a rise in temperature and increased white cell count. If traumatic, these symptoms are not present.

Epiphysitis or apophysitis of the os calcis is rather rare effection of childhood. It is more frequent in boys between the age of 6 and 15 and is manifested in the X-ray by the marked atrophy and disintegration of the lime salts in the epiphysis to which the tendon archilles is attached at the back of the heel. The symptoms are that of a limp, walking on tip toes, tenderness on pressure. The diagnosis is made by the X-ray.

Teno-synovitis is very commonly the result of too much walking. There is marked tenderness along the heel tendon and crepitus is elicited by placing the hand on the back of the heel and moving the foot up and down.

Exostosis, or spurs on the heel, occur at the calcaneal tubercle, on sole of os calcis or posteriorly at the most prominent point. It is the result of old standing bursitis and usually gonorr-

heal. They may become so tender that walking on the heels is impossible. In other cases large bony growths may be present with no symptoms.

TREATMENT

Cellulitis: Where new shoes rub the heel or toe, adhesive plaster offers ample protection. If blister is large, it should be opened and treated aseptically. Acute infection should be treated by heat and antiseptics.

Bursitis: At the back of the heel may be relieved by relaxing the heel cord and adhesive strapping for support. All foci of infection should be removed. Local treatment consists of relief of pressure from the tender point. The heel is held in plantar-flexion and bound in this position by adhesive strips from sole of heel to the calf. The shoe heel is raised about one-half inch. Where the tenderness is on the sole of the heel, it may be relieved by a concave pad of felt or a hollow heel metal sole plate. For the latter, a plaster im-

pression of the whole foot is made and the plate moulded about the heel as desired.

Periostitis: Rest is of first importance. Counter irritation and poulticing is often efficient.

Apophysitis: Tension upon the heel cord should be relieved by raising the heel and adhesive strapping. Systematic treatment in respect to nutrition and metabolism is often necessary.

Teno-synovitis: Complete rest is often necessary. Raising the heel and adhesive strapping often relieves the mildly acute case. Attention should be given to pressure from the shoes.

Spurs or Extosis: It is not always necessary to remove these surgically. It often happens that large spurs are found on the sole of each os calcis but only one is painful. Padding with felt or a hollow heel sole plate will often relieve.

Operative treatment consists of removal of the spurs. It may be done under local anesthetic but general anesthetic is advisable. The spur on the sole of the os calcis may be approached by a lateral incision over outer border of heel or a concave incision posteriorly below the attachment of the tendoachilles. The calcarious deposit must be thoroughly removed by gouge and chisel.

OSSIFYING CHONDROMA OF A RIB MIS- TAKEN FOR A SARCOMA.—Cecil P. G. Wake- ley, *Brit. Jour. of Surg.*, July, 1925, p. 175.

Male, 42, was carrying a loaded ammunition drum under his arm when suddenly it exploded, causing severe pain in the right side of the chest; otherwise he was not hurt.

Soon afterwards he developed a pain in the back of the shoulders which remained constant. Later he developed nephritis. This cleared up, but the pain in the back persisted. Several years later he noticed a hard lump above and external to the right nipple. This was diagnosed as a malignant condition and radium was inserted into the tumor in three situations. The tumor increased in size and he became unable to write. A shoulder amputation was advised and declined.

Examination showed a large rounded tumor of the right chest wall. Pulsation was present in the upper part. There was slight weakness of the muscles supplied by the lowest brachial nerve cord.

Operation was performed. The tumor was fixed to the middle of the fourth rib by a short pedicle about three-quarters inch in diameter. The tumor after excision measured seven inches by six inches. On section there were definite areas of ossification and in one place a mucoid degenerative area. The microscopic picture was that of a typical chondroma.

COMPRESSION OF THE SPINAL CORD AND ITS ROOTS BY HYPERTROPHIC OSTEOAR- THRITIS. Harry L. Parker and Alfred W. Ad- son. *Surgery, Gynecology and Obstetrics*, July, 1925, p. 547.

A report of eight cases in detail is given. These all showed definite interference with nerve function, both motor and sensory. The symptoms were stopped or relieved by laminectomy at the levels indicated. Bony hypertrophy was found to be reducing the lumen of the spinal canal, and to be impinging upon the cord or nerve-roots. The roentgenogram was of little use as a positive

diagnostic help because the bony lesions were on the inside of the spinal canal. Obstruction of the canal was determined by lumbar puncture resulting in yellow fluid, and the level was indicated by the distribution of nervous symptoms. These cases all obtained relief from pain by lying down, which indicated that posture in recumbency had a marked effort upon mechanical pressure on the cord and nerve-roots, a marked contrast to the spontaneous lighting up of pain due to the pressure of cord tumors, in which case active exercise generally brings relief. An excellent paper, well arranged and set forth.

THE TREATMENT OF OPEN JOINT TUBER- CULOSIS BY MEANS OF PLASTER CASTS. EGISTO CAPECCEI. *Zeitsch. f. ortho. Chir.*, Vol. 46, 1925, p. 525-32.

A method advocated and practiced by Solieri is reported and two typical cases are described. Solieri proceeds as follows: The periarticular abscesses are located, the fistulae cleared out and disinfected. A closed plaster cast is then applied which completely encases the diseased joint and the fistulae. The cast reaches to both neighboring joints. The cast is changed in about one month, earlier, if it has become too soft or if it does not fit any longer on account of having become too large because the edema of the joint has disappeared. Solieri and the author have had the very best results with this method. Healing was more rapid than by any other methods of treatment of discharging tuberculous wounds. The favorable results obtained by this method cannot be ascribed to immobilization and to infrequent change of casts only, but to prevention of infection from without and to the autoserotherapy or autovaccination which results from the close and prolonged contact of the macerated skin about the fistula with the tuberculous pus. The odor which may develop and the softening of the cast from the pus which flows down from the fistulae may partly be prevented by exposing the casted extremity to the sun.

TUBERCULOSIS

Edited by L. J. Moorman, M.D.
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Hilum Tuberculosis. *Abst. A. M. A., Jour.* Feb.
27, 1926. David Zacks, M.D., Boston.

The author states that up till 1910, 1911, it was generally accepted that tuberculosis began at apex of lung, particularly the right apex. Lymph gland tuberculosis was thought to be of little importance. At the present time, it is thought that tuberculous infection begins early in childhood and shows its clinical manifestations in the hilum glands, later spreading upward and outward into the lung parenchyma to be recognized later as pulmonary tuberculosis.

D'Espine called attention to a physical sign which he believed due to enlarged tuberculous bronchial glands. He appreciated, however, that acute infections (measles, whooping cough and mumps) may give rise to enlarged glands in this region, and regarded these glands as tuberculous only if the sign persisted six months after recovery from the acute disease.

At a meeting of the American Sanatorium Association in December, 1922, a committee headed by Dr. H. D. Chadwick, defined the term "hilum tuberculosis"—to include those cases which presented the following symptoms and physical signs controlled by Pirquet reaction and Roentgen-ray.

Symptoms: Local—frequent colds, cough, hoarseness, rarely loss of voice.

Constitutional: Undue fatigue—lassitude, nervous irritability, anorexia, weight may be normal but more often subnormal; retardation of growth; occasional unexplained elevation of temperature; phlyctenular diseases; scrofuloderma and lupus.

Physical Signs: Paravertebral dullness; Rales are rarely found, and when present, are due to causes other than tuberculosis.

Roentgen-ray: (1) Prominent bronchial trunks with definite beading extending from hilum; (2) Enlarged lymph nodes embedded in tissue of hilum; (3) Diffuse shadows of varying density throughout the hilum.

The author reports 2,285 cases from 6 to 15 years of age, with a reactor group (positive Pirquet) of 1,176 cases compared with a non-reactor group (negative Pirquet) of 1,109 cases, with the following comments:

Tuberculin Reaction: It is found that 29.2 per cent of children between 6 and 15 years, react to tuberculin test (applying to statewide examination of 10,648 children). Pratt and Bushnell hold that reaction in older children is of little value. On the other hand, Chadwick and others hold that in the presence of a reaction, the child should be investigated for powers of resistance and immunity. It is argued that the non-reactor group who have never been infected and have no immunity, are in greater danger of a primary infection, this is admitted. He advises the family physician to guard the children from this point of view.

Symptoms: The first important symptom in this study was underweight, with a two to one ratio in the reactor and non-reactor groups. Other important symptoms were fatigue, nervous irritability, frequent colds and sweating, cough and hoarseness, present in both groups, with a slight increase in percentage in reactor group.

Physical Signs: Interscapular dullness was found in 70 per cent of hilum cases. Rales were found twice as often in the non-reactor group as in the reactor group. Cardiac murmurs were found in one per cent of non-reactors against 0.5 per cent in reactors.

X-ray Evidence: The most frequent X-ray findings are a moderately thickened hilum with shadows interpreted as glands. Special emphasis is placed on linear markings running from hilum into parenchyma and circumscribed areas of density in lung parenchyma (interpreted as calcified or fibroid tubercles). These are also known as Ghon's primary focus.

Diagnosis: The diagnosis of hilum tuberculosis in school children is based on a conservative evaluation of certain symptoms (underweight for age and height being most important), physical signs (relative interscapular dullness), exclusion of other disease and control by Roentgen-ray examination and tuberculin test. By this method 459 cases out of 10,648, or five per cent, were diagnosed hilum tuberculosis. This is in agreement with Planner, who found a similar percentage.

EYE, EAR, NOSE and THROAT

Edited by Jas. C. Braswell, M. D.
726 Mayo Bldg., Tulsa

The Non-Operative and Operative Treatment of Glaucoma. Calhoun, F. P. *Am. J. Ophth.* 1925, 3 s. viii, 849.

The author discusses congestive and non-congestive glaucoma. Disturbances of the glands of internal secretion are mentioned as possible etiological factors. Calhoun admits that the treatment of congestive glaucoma is always surgical, but in a few chosen cases in the prodromal stages he keeps the patient under observation for a while and treats both eyes with eserine and pilocarpine. For cases of acute glaucoma he advocates from six to twelve hours of absolute rest under opiates in a hospital; dehydration by means of calomel and saline solutions; and the local application to the eye of five per cent dionin solution followed by hot moist compresses for twenty minutes followed by the use of one drop of one-fourth per cent eserine. Under such treatment the tension is reduced from twenty to thirty points, the anterior chamber becomes deeper, the pupil becomes smaller and the condition of the eye and the general condition are improved for operation. A careful physical examination is essential.

The indications for miotic treatment are:

1. The cases of patients over sixty years of age or with some incurable disease, whose life expectancy is not more than ten years.
2. The cases of patients who are blind in one eye from glaucoma and have a small field and good vision in the other eye.
3. The cases of patients who have lost one eye as the result of operation, complications, or an accident and have early symptoms in the other eye.

The operative treatment described by the author is the same as the Reese technique except that instead of clipping off the anterior lip of the sclera, Calhoun makes several deep incisions into the scleral lip to form several avenues of escape for the aqueous humor. When the anterior chamber has been restored, massage is begun and continued for two weeks by the surgeon and the patient is then instructed to practice it twice a day for a month. If the tension returns, a trephine operation is done.

On Curietherapy of Epitheliomata of the Tongue and of Their Following Adenopathy. Regaud, C.: *Brit. J. Radiol.*, 1925, xxx, 361.

Regaud reports that of 174 cases of epithelioma of the tongue a positive cure was obtained by curietherapy in nearly one-fourth and disappearance of the lingual localization in nearly another fourth. Very small ulcerations of the tongue and cases in which curietherapy fails but the lesion remains operable he treats by surgery; the X-ray has given only poor results.

In cancer of the posterior dorsal portion of the tongue the X-ray may be of value; curietherapy has given few cures. In cases with moderately advanced lesions radium treatment is followed by marked and prolonged improvement, local sterilization, or a complete cure.

In curietherapy the radiation field must be as homogenous as possible, the gamma rays should be employed, the irradiation must be continuous for a long time, and the attempt must be made to obtain a successful result from a single treatment. The use of radium in platinum needles with walls 0.5 mm. thick seems to be superior to the burying of emanation tubes or tubes of low filtration.

The principal causes of poor results in curietherapy are failure to treat all of the cancer area, inaccuracy, and insufficient total dosage, the use of needles made of imperfect material, and the occurrence of necrosis.

In the presence of adenopathy neither surgery nor curietherapy alone is sufficient. Radium puncture of lymph glands has given poor results. If suspicious nodes are present or appear after treatment of the primary tongue focus, complete surgical cleaning out of the invaded area followed by histological examination of all removed glands is necessary. If the glands are found to be cancerous, external curietherapy is indicated. External curietherapy should be given in all cases of infralingual cancers. In cancer of the posterodorsal portion of the tongue the X-ray is preferable.

External curietherapy must never be used with puncture. The external method with the use of an external wax mould is now employed.

INTRANASAL DACRYOCYSTOSTOMY.—Fraser, J. S.; *J. Laryngol. and Otol.*, 1925, xl, 723.

The author describes a slight modification of the West operation for the relief of chronic dacryocystitis. He now uses general anaesthesia in all cases. The time required for the operation is only ten to fifteen minutes. The main difficulties encountered in some cases are unusual thickness of the bond to be removed, and bleeding. Fraser gives no after-treatment.

Of the first forty-eight patients treated by the operation described, thirty-eight were regarded as cured, five were benefitted, and five were not benefitted.

Of the next thirty-five patients, twenty-three were cured, but three of these required secondary operation. In the remaining twelve cases the results were more or less unsuccessful. Fraser states that most of the failures were due to the fact that the opening was not made large enough.

FUNDAMENTALS OF BONE CONDUCTION.—

Fowler, E. P.; *Arch. Otolaryngol.* 1925, ii, 529.

Errors in measuring bone conduction are many, varying with the observer, the patient, and the instruments used. It is desirable to measure it accurately in understandable units suitable for correlation and charting with air conduction. In the author's method the decrement in intensity of tuning fork tone is made the same for air as for bone conduction as the damping is made the same for both. Hawley applies the shank of a known calibrated fork every three seconds slowly and by firm pressure vertically against the mastoid $\frac{3}{4}$ in. behind the ear on a level with the superior meatal wall. The patient is instructed to answer "yes" and "no" according to whether the fork is heard or not, and the time is recorded by a split-second double-hand stop watch.

If air conduction is to be estimated simultaneously with bone conduction, the fork is placed

before the meatus with the extremity of the flat side of one prong parallel with the side of the head and then alternately every one second and a half between the meatus and the mastoid. In this way the number of seconds the fork is heard for air and bone conduction can be learned and curves for each can be plotted with the ratio between them. Repeated measurements yield results more dependable than a single test, and the accuracy is proportional to the square root of the number of observations made. By this technique an accuracy of less than a second's variation was obtained.

UROLOGY and SYPHILOLOGY

Edited by Rex Bolend, B.S., M.D.
1010 Medical Arts Building, Oklahoma City.

THE VALUE OF SPECIFIC TREATMENT IN CARDIOVASCULAR SYPHILIS.

Apropos of an article the writer had in this column recently, wish to quote Goldberg, in the Boston Medical and Surgical Journal, who shows that more efficient examination has disclosed a percentage of cardiovascular syphilis than was formerly believed. The Wassermann reaction is negative in an appreciable percentage of cases and does not rule out the presence of cardiovascular syphilis. These cases should be subjected to a definite and persistent course of combined antisyphilitic treatment. Whenever possible, arsphenamine, or allied arsenicals, should be given, as this form of therapy is far more effective than any other. Antisyphilitic treatment has conclusively been proved to have resulted in the amelioration of symptoms, especially the harassing pain of angina pectoris of syphilitic origin, and has been known to be of benefit in all cardiac deficiencies which have a specific basis.

TREATMENT OF THE SYPHILITIC EXPECTANT MOTHER

Hall, in the Southern Medical Journal, states that in his opinion more can be accomplished toward eradicating syphilis by educating and treating the expectant mother than by any other means. Wassermann examinations should be made on all pregnant women. Next to a Wassermann test, the history of a previous abortion, miscarriage, stillbirth or living syphilitic child is the most valuable sign. In only about 18 per cent of cases detection is aided by previous personal history or clinical signs. Arsphenamine and neoarsphenamine are the drugs of choice. Every syphilitic expectant mother should be treated with arsphenamine or neoarsphenamine. Treatment is most effective when given early in pregnancy. All patients in this series having a syphilitic child started treatment after the sixth month of pregnancy. A small amount of treatment early in pregnancy will often result in a healthy child. The same amount given before conception will in most cases result in a syphilitic child.

HEXYLRESORCINOL

While Hexylresorcinol was not developed primarily for the use of gonorrhea, still it occurs to the writer that if the claims for the drug were

substantiated, and it seems they are, it might be used as an aid in the treatment of gonorrhea.

Not that we expect any special effect on the gonococcus, but it is pretty well known that gonorrhea of more than ten to twelve days' duration becomes a mixed infection and of course staphylococci of the different varieties are the most frequent invaders.

Therefore, as well as having some inhibitory action on the gonococcus it would lower the virulence other organisms present.

We have used Hexylresorcinol with this idea in view in a fair number of cases and while the results have not been such that we could even consider using it alone, it has proven a distinct aid.

This is a point that is well to bear in mind in the treatment of G. C. conditions of the anterior urethra.

—o—

TREATMENT OF ARSPHENAMINE INJURIES

F. Dietel, of the Erlanger University makes the following report on Sodium Thiosulphate.

While arspenamine dermatitis could hitherto be treated symptomatically only, sodium thiosulphate, acting as a detoxicating agent, has now offered a real method of treatment. The author, in his experience in the Erlanger clinics never observed any injurious effects from sodium thiosulphate in metal poisoning. The initial dose is usually 0.6 gm. It is gradually increased to 1 gm., and injections are made daily, or at least every other day. The drug exerts its effect rapidly, especially when treatment is instituted early. But when the dermatitis is of several days' development the effect of sodium thiosulphate is much more feeble, and sometimes it is ineffective altogether.

The author thinks that the drug would be quite as effective in severe bismuth injuries as in grave arspenamine impairments. He has also had no chance to observe the effect of sodium thiosulphate in post-arsphenamine encephalitis but he is of the opinion that it would be of value here, too.

Dr. J. H. Maxwell, of this city, has done considerable experimental work on dogs along this line and reports essentially the same findings.

GARVAN LEADS FIGHT ON COMMON COLD

Will Finance A Research to Discover Cause and Cure for Root of Many Ills.

A research to discover the cause and a cure for the common cold which was pronounced one of the greatest scourges of humanity, was undertaken by the American Drug Manufacturers' Association at its convention in New York City recently when an offer to finance such a research was made by Francis P. Garvan, President of the Chemical Foundation.

Reporting good progress in the fight to establish the chemical industry in this country in competition with Germany in the fields which Germany formerly controlled, Mr. Garvan branched into the subject of the common cold, which he said was one of the greatest causes of mortality and economic loss, in spite of the fact that it is usually regarded as of slight importance. He said:

"Sitting at my desk, it seems to me as if a new industry was born in this country every minute, fathered by chemistry and mothered by research. But recently, in my pride and boasting of our achievements, the curtain lifted over something undone, a problem I have brought to you and which has, I might say, overwhelmed me in its importance and in the little that has been done with it. This is the subject of the common cold.

"When you come to consider that all through our lives we go on suffering from a cold and pneumonia, from mastoiditis and the sinus troubles, and a thousand and one things which develop out of the common cold, to say nothing of the inherent weakening of the physical structure by these repeated assaults upon ourselves, but more particularly upon our children and our women, you realize the gravity of the common cold.

"Do you realize that ten days of every man, woman, and child's activity a year, on the average, are lost throughout this country? It amounts to more than a million years of activity annually. The loss to agriculture, industry and all business activities is some 700,000 years of working time through the incapacitation of 15,000,000 workers in this country."

The American Manufacturers' Association voted to cooperate with The Chemical Foundation in seeking a method to check the ravages of colds.

—o—

WHY DOCTORS GET GRAY

Deer Doc Smith:

I got your letter about what I owe you. Now be pachunt. I ain't forget you. Pleez wait. When sum fools pay me, I pay you. If this wuz judgment day and you wuz no more prepared to meet your maker as I am to meet your account, you sure would have to go to hell.

Trusting you will do this,
Jake Pinchem.

--From Mountain Air, published monthly by the Oklahoma State Tuberculosis Sanatorium, Talihina, Oklahoma.

THE ANNUAL MEETING COMMITTEES

The following have been appointed as the Committee on Arrangements for the annual meeting of the State Medical Association to be held in Oklahoma City, June 22, 23, and 24th:

Dr. Wm. H. Bailey.....General Chairman
Dr. Carroll M. Pounders, Chairman of Committee on Information, Registration and Badges.
Dr. A. J. Sands, Chairman of Committee on Clinics.
Dr. Horace Reed, Chairman of Committee on Meeting Places.
Dr. J. B. Eskridge, Chairman of Committee on Finances.
Dr. Rex Bolend, Chairman of Committee on Entertainment.
Mrs. E. P. Allen, Chairman of Committee from Ladies Auxiliary.

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President, 1925-26, Dr. P. P. Nesbitt, Palace Bldg., Tulsa.

President-Elect, Dr. A. S. Risser, Blackwell.

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Second Vice-President, Dr. J. S. Fulton, Atoka.

Third Vice-President, Dr. R. S. Love, 601 Medical Arts Bldg., Oklahoma City.

Secretary-Treasurer-Editor, Dr. C. A. Thompson, Barnes Bldg., Muskogee.

Associate Editor, President Dr. P. P. Nesbitt, Tulsa.

Meeting Place, Oklahoma City, June 22, 23, 24, 1926.

Delegates to the A. M. A. Dr. Albert Cook, Palace Bldg., Tulsa, 1925-26; Dr. McLain Rogers, Clinton, 1926-27.

CHAIRMAN OF SCIENTIFIC SECTIONS

General Medicine, Neurology, Pathology and Bacteriology, Dr. Claude T. Hendershot, Chairman, Orpheum Bldg., Tulsa; Dr. Basil A. Hayes, Secretary, Medical Arts Bldg., Oklahoma City.

Eye, Ear, Nose and Throat, Dr. Joseph W. Beyer, Chairman, Palace Bldg., Tulsa; Dr. L. A. Newton, Secretary, Medical Arts Bldg., Oklahoma City.

Genito-Urinary, Dermatology and Radiology, Dr. Charles J. Woods, Chairman, 123 West 3rd Street, Tulsa; Dr. C. B. Taylor, Secretary, 1002 Medical Arts Bldg., Oklahoma City.

Obstetrics and Pediatrics, Dr. R. M. Anderson, Chairman, Shawnee; Dr. J. G. Binkley, Secretary, Medical Arts Bldg., Oklahoma City.

Surgery and Gynecology, Dr. F. A. Hudson, Chairman, Enid; Dr. A. W. Pigford, Secretary, 510 Palace Bldg., Tulsa.

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District No. 3 Blaine, Kingfisher, Canadian, Logan, Payne, Lincoln, Oklahoma, Cleveland, Pottawatomie, Seminole and McClain. Dr. Walter Bradford, Shawnee. (Term expires 1928).

District No. 4 Caddo, Grady, Comanche, Stephens, Jefferson, Garvin, Murray, Carter, and Love.

District No. 5 Pontotoc, Coal, Johnston, Atoka, Marshal, Byran, Choctaw, Pushmataha and McCurtain. Dr. J. S. Fulton, Atoka. (Term expires 1928).

District No. 6 Okfuskee, Hughes, Pittsburg, Latimer, LeFlore, Haskell and Sequoyah. Dr. L. S. Willour, McAlester. (Term expires 1928).

District No. 7 Pawnee, Osage, Washington, Tulsa, Creek, Nowata and Rogers. Dr. Gregory A. Wall, Palace Bldg., Tulsa. (Term expires 1926).

District No. 8 Craig, Ottawa, Delaware, Mayes, Wagoner, Cherokee, Adair, Okmulgee, Muskogee, and McIntosh. Dr. J. Hutchings White, Surety Bldg., Muskogee. (Term expires 1928).

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Meetings held on second Tuesday and Wednesday in January, April, July and October. Oklahoma City. Do not address communications concerning State Board examinations, reciprocity, etc., to the Journal or to Dr. C. A. Thompson, Secretary, but to Dr. J. M. Byrum, Shawnee, Secretary of the Board.

The applicant for license, either by examination or reciprocity shall be a graduate of a medical school, the requirements of which for graduation

shall have been, at the time of graduation, in no particular less than those prescribed by the Association of American Medical Colleges for that particular year.

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Tuberculosis Study and Control—Dr. L. J. Moorman, Chairman, Medical Arts Bldg., Oklahoma City; Dr. John T. Wharton, Sulphur; Dr. R. M. Sheppard, Tahleah.

Scientific and Educational Exhibits—Dr. Horace Reed, Chairman, Medical Arts Bldg., Oklahoma City; Dr. Claude T. Hendershot, Orpheum Bldg., Tulsa; Dr. Earl D. McBride, 717 No. Robinson St., Oklahoma City.

Necrology—Dr. A. S. Risser, Chairman, Blackwell; Dr. D. Long, Duncan.

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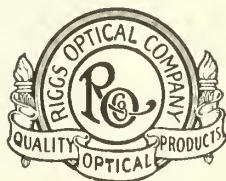
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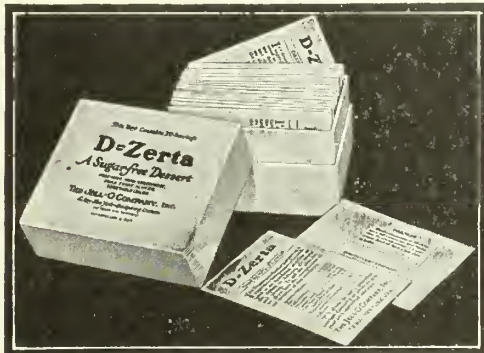
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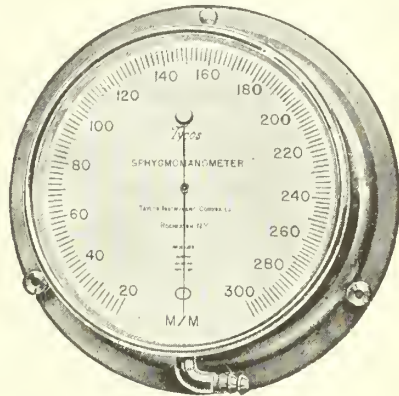
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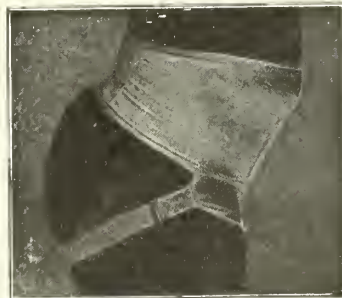
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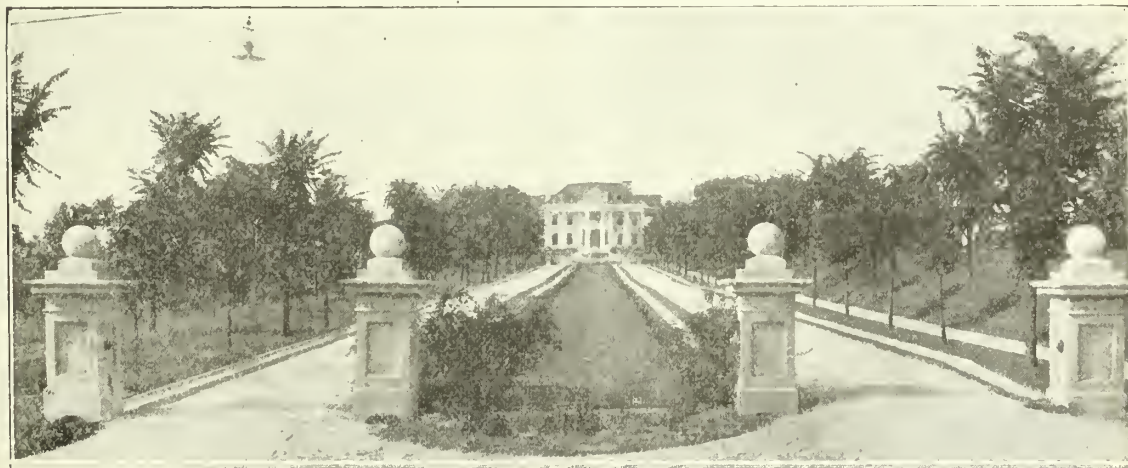
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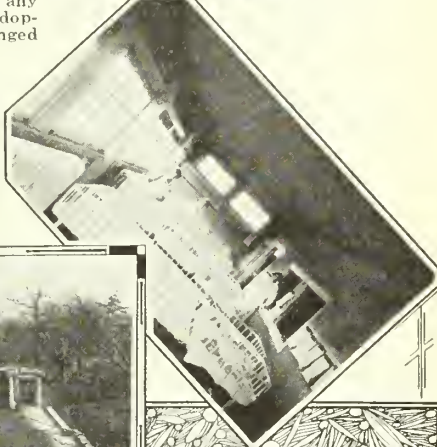
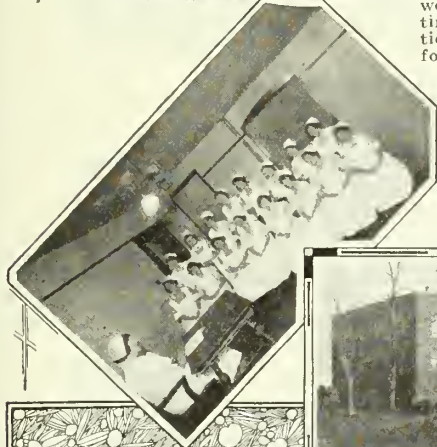
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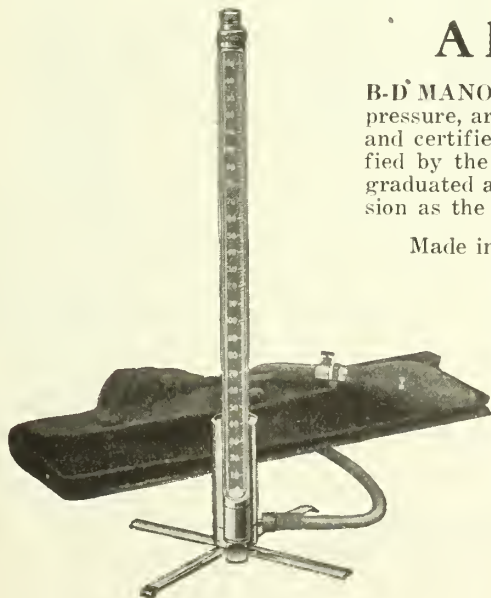
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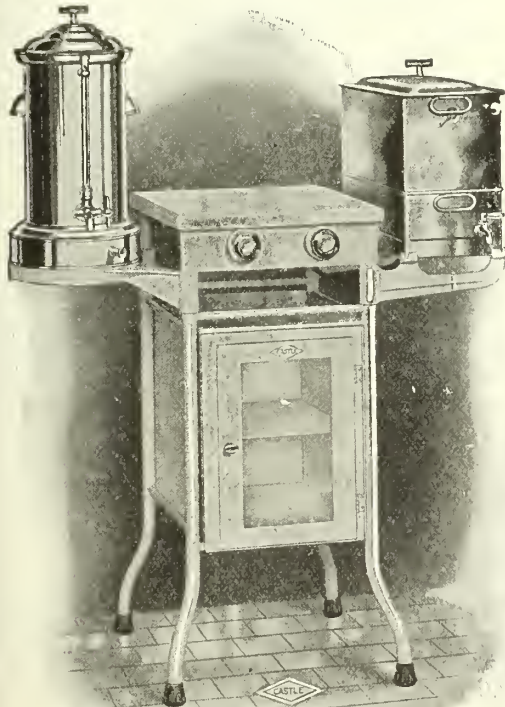
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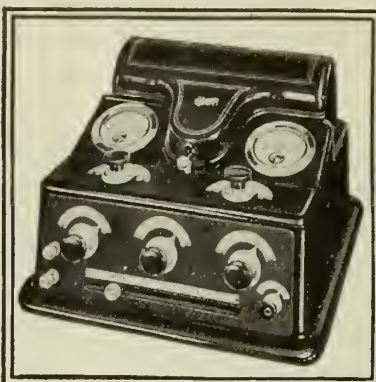
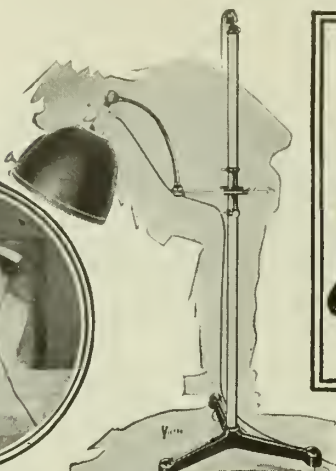
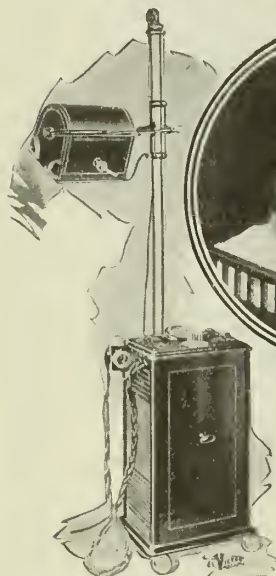
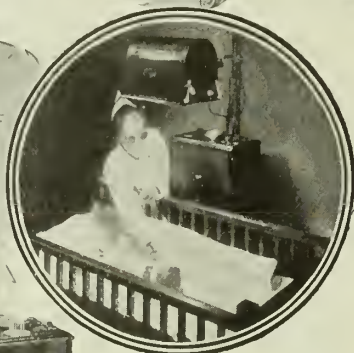
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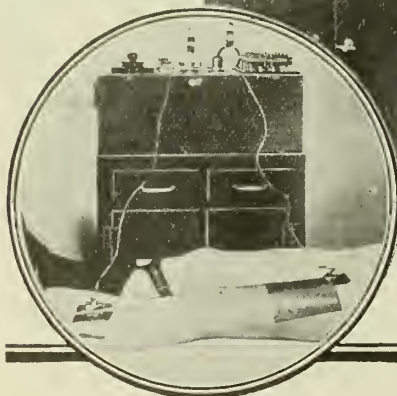
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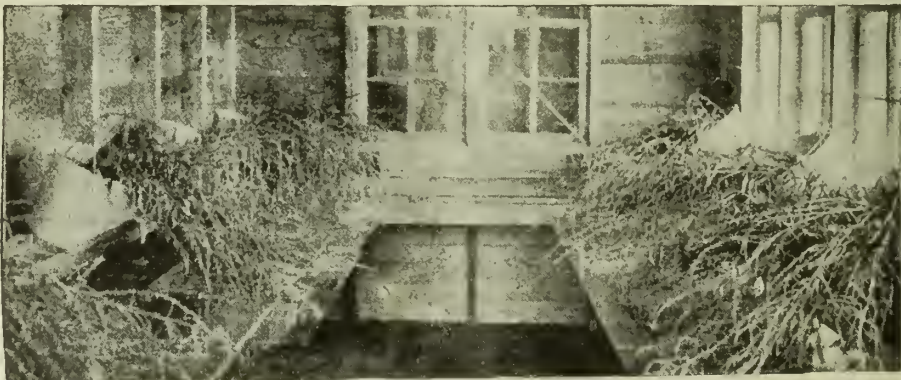
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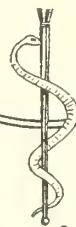
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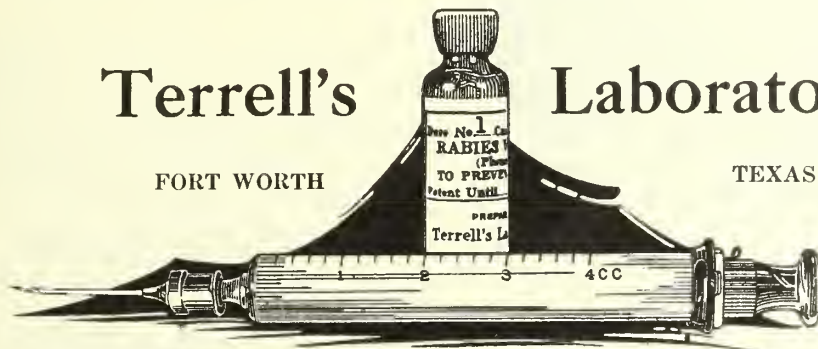
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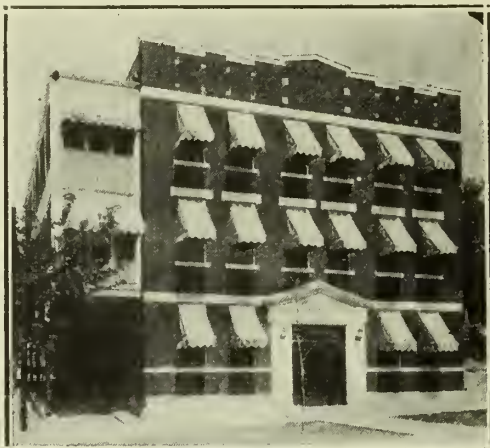
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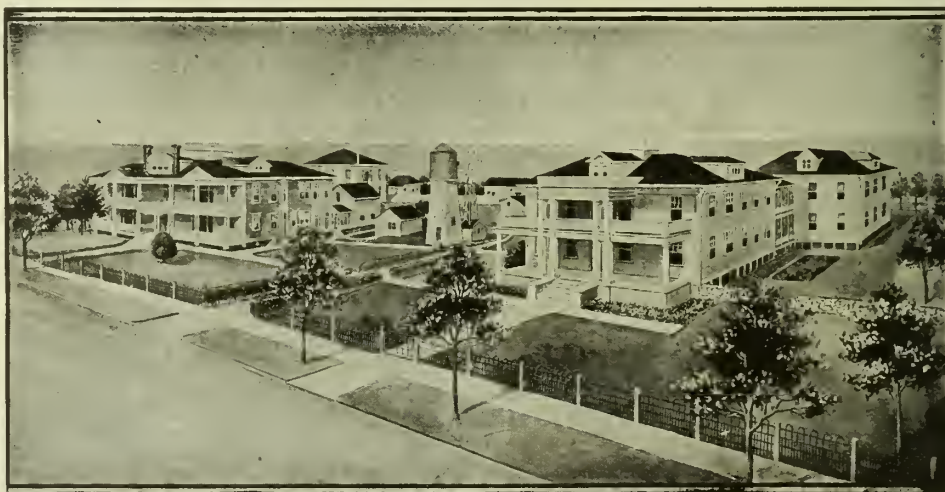
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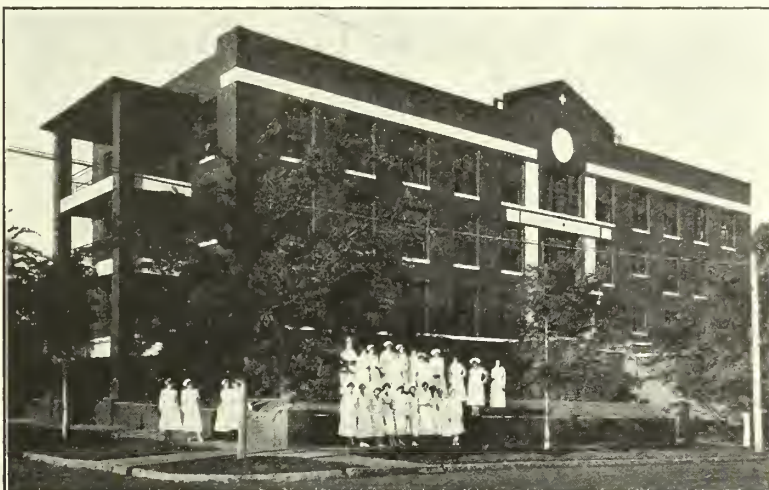
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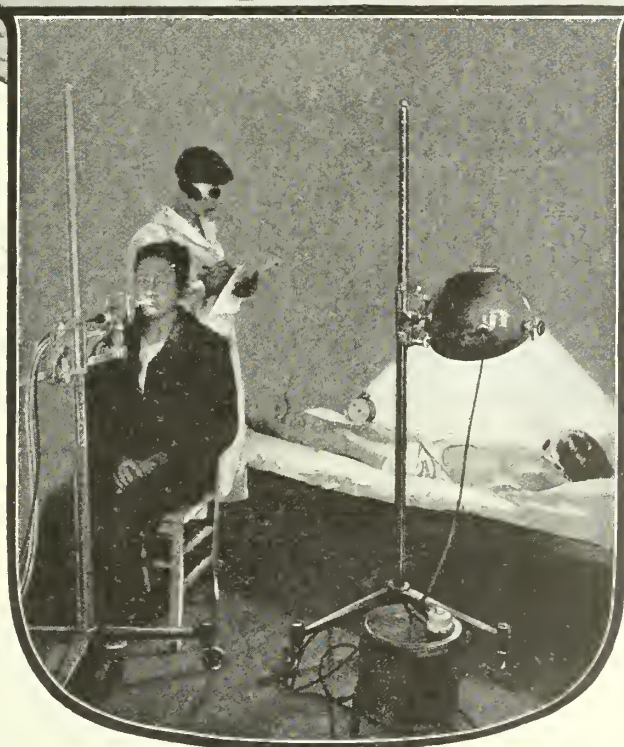
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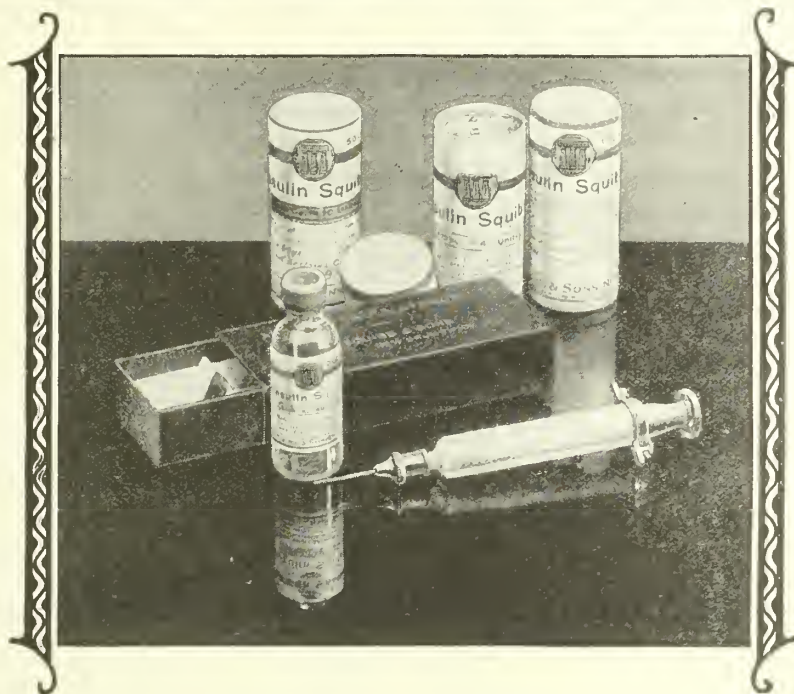
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VOLUME XIX

MUSKOGEE, OKLA., JUNE, 1926

NUMBER 6

PYELITIS: ITS ETIOLOGY, SYMPTOMS, DIAGNOSIS AND TREATMENT

W. J. WALLACE, M.D.
OKLAHOMA CITY

The designation *pyelitis* should be properly applied only to those renal inflammations which are confined to the mucous membrane of the pelvis and the calices of the kidney. It is always of bacterial origin, though the infection may reach the pelvis by way of the blood stream descending infection, or be conveyed by the urine-ascending infection. No age is exempt from this type of infection, though the majority of cases occur in those between the ages of twenty and forty, but it is never safe to overlook the possibility of its occurrence in any patient, little children being far more subject to renal inflammation than is ordinarily realized. The female sex seems to be more affected than the male, this holding true in childhood as well as in early adult life, when the frequent occurrence of pyelitis in pregnancy might very well serve to affect the ratio between the sexes. As a rule the pelves of both kidneys are involved, but in unilateral cases, it is the right side which is more likely to become inflamed.

ETIOLOGY

The causes which serve to induce suppuration in the renal pelvis do not differ, whether it is due to an infection beginning in the lower urinary tract and extending upward, or to one of hematogenous origin which commences in the kidney parenchyma and extends downward toward the pelvis, spreading by continuity or metastasis. These causes may be divided into *active* and *predisposing*.

The active causes are of course, the pyogenic organisms, which named in the order of their most common occurrence, are *Bacillus coli communis* *Staphylococcus*

aureus and *S. albus*; *Streptococcus*, and other less common organisms, such as the *Bacillus typhosus*, *Bacillus proteus*, *gonococcus*, *pneumococcus*, *Bacillus mucosus capsulatus* of Friedlander, and the *Bacillus pyocyaneus*. In addition to these, one should always be on the lookout for the tubercle bacillus, for while this organism is not a true pus-producer, it is frequently responsible for lesions which produce a soil favorable for the introduction and growth of pyogenic bacteria.

PREDISPOSING CAUSES

Under this head I shall include systemic debility; any factor favorable to congestion such as trauma, movable kidney, pressure upon kidney or ureter, the presence of calculi; pathologic lesions which impede the flow of urine, such as ureteral strictures, kinks or angulations of the ureters, prostatic hypertrophy, or stricture of the urethra; poisons, chemical or otherwise, infectious diseases—a very common cause; exposure to cold and dampness or extensive burns; and finally, such general systemic infections as malaria or syphilis.

SYMPTOMS

As in most other infections, the involvement of the renal pelvis may take either an acute or chronic form. The acute pyelitis of infants and young children is often very difficult of diagnosis, and is no doubt very frequently confused with something else or passes wholly unrecognized. Helmholtz, of the pediatrics section of Mayo Clinic, asserts that there is no correlation between the severity of the symptoms and the pathologic findings in those very few cases which have come to autopsy. The same symptoms may be associated with cortical abscesses of the kidney with infection of the pelvis, of the ureters or of the bladder, either singly or in combination.

"The symptomatology of infections of the urinary tract (in little children) is so varied that the diagnosis of pyelitis or pyelocystitis according to common opinion, rests entirely on urinary findings. It must be granted that the examination of the

*Read before the Section on Genito-Urinary, Dermatology and Radiology, Annual Meeting, Oklahoma State Medical Association, Tulsa, May 12, 13, 14, 1925.

urine in most instances will detect a pathologic process somewhere in the urinary tract, but that is all; it cannot localize the lesion." The usual clinical picture presented by a little child will be extreme restlessness and *malaise*, or a sharp onset ushered in by a chill, followed by a rise of temperature to 102° or 104° F., marked pallor, anorexia, rapid emaciation, or even delirium. Palpation will disclose marked tenderness in the region of the loins, and generally over the abdomen and above the bladder, the findings in general being similar to those of acute gastro-intestinal disturbance. The urine will be highly colored and give a strongly acid reaction, with increased frequency and evidences of pain on voiding.

In the pyelitis of pregnancy, an acute attack usually begins with a slight chill, followed by fever, with frequent and painful urination and sensations of pain and heaviness on the affected side, or sides, which may vary from slight discomfort to all the agonizing manifestations of renal colic. Fever varies widely in different individuals. One of Kretschmer's patients had a temperature of 105° during the acute attack, dropping to 93.9° in the remission, an excursion of 11.1 degrees. He remarks that although this was an extreme instance "it proves that many of these cases, under what appears to be very desperate circumstances, lend themselves to conservative management." Fever is often intermittent as well as remittent, and accompanied by extreme prostration, drowsiness often amounting to stupor, vomiting, and rapid loss of weight.

Chronic pyelitis may be in existence for years without producing urinary disturbance or rise of temperature, being often detected only when urinalysis reveals the presence of pus and bacteria. More commonly however, there will be certain symptoms definitely referable to the bladder, such as frequency, urgency, burning or other pain, hesitancy and strangury, or at times dribbling or complete incontinence. As these phenomena are recognized manifestations of cystitis, the kidney escapes suspicion for some time, and the frequent occurrence of headache, a coated tongue and other indications of gastro-intestinal irregularity, often serves to cloud the diagnosis still further. Such patients frequently feel convinced that they are suffering from malaria, but as this can be easily excluded by blood examination, it is not a serious element of confusion.

Another symptom which I have not infrequently encountered, especially in women, but to which little or no attention is given in ordinary text-book description of pyelitic symptoms, is a state of mental depression, at times amounting almost to melancholia, manifested by crying, apprehension and accusations of ill-treatment. Such patients are often treated for "neurasthenia" over long periods and all sorts of remedial measures, such as change of climate and mode of life, together with a long course of "nerve treatment" vainly applied, when recognition of the true cause of the condition, and cure of the renal inflammation, will immediately banish all the "nervous symptoms". This type of patient is well illustrated in the following case.

Mrs. T., examined July, 1919. Complained of pain over both kidneys, a chilly sensation and some fever. She had been treated for malaria. She was very despondent and melancholy, brooding over her condition and even threatening to do herself bodily injury. When questioned as to her motive she was unable to give any reason for her feelings; her married life was known to be happy.

Under vigorous treatment of the renal condition the mental symptoms, together with those of the kidney inflammation, promptly disappeared, and on May 15, 1921, the patient returned for another examination, as she had observed some local symptoms referable to the urinary tract. Her chief concern however, was a return of the melancholia and hysteria which she had recognized and referred to its other source. After three administrations of pelvic lavage and other remedial measures the renal and mental symptoms again vanished.

DIAGNOSIS

After eliciting a careful and thorough history and making a complete general examination, separate specimens of urine should be obtained by catheterization of each ureter, an analysis being made of the individual output of both kidneys. The condition of the ureters should be carefully observed to detect the existence of any kinks and strictures or other obstructions to the passage of the catheter. In addition to the analysis of the separate urines a functional test should be made, the fact that excretion continues normal in the presence of pyelitis, making this of especial diagnostic importance. Radiologic ex-

amination should be made with the catheter in the ureter, the roentgenograms being much more satisfactory if opaque catheters are used. Any other possible source of the pus and bacteria in the urine must be eliminated, such as calculus or neoplasm, and especial effort put forth to detect the existence of tubercular infection, to which end guinea-pig inoculation should be employed whenever possible.

My experience has led me to believe that surgeons are not generally sufficiently alive to the possibilities of renal infection and that many useless operations upon the abdominal viscera are undertaken because the kidneys have not been properly explored in attempting to establish a diagnosis. I recently had as a patient a woman who had undergone seven operations in a vain endeavor to relieve symptoms believed to be abdominal, but actually due to a calculus pyelitis, the existence of which was never discovered in any of these "exploring expeditions into the interior". Now that we have the cystoscope, opaque ureteral catheters, safe pyelographic media, functional tests of established reliability, and skilled laboratory workers and operators competent to produce good X-rays and to properly interpret them, the diagnosis of any form of renal disease should no longer be a matter of uncertainty. It is altogether removed from the realm of "guess-work" and placed upon a sound scientific basis, and no excuse should avail for the urologist who fails to make use of every aid to accuracy which is within his reach.

TREATMENT

Once a diagnosis is established, the treatment must be carried out in accordance with the type of infection with which we have to deal, for the handling of acute and chronic cases varies considerably.

ACUTE PYELITIS

Acute pyelitis must be treated by rest, in bed invariably. Severe pain may have to be controlled by anodynes. Distilled water should be taken in an amount averaging an ordinary glass every hour of the day, and free catharsis is essential as constipation is, in many cases, the source from which the infection originated. The urine should be thoroughly alkalized by giving one dram doses of potassium citrate or bicarbonate of soda, every three hours during the day, and at four hour intervals at night, for about a week, or until the litmus paper reaction is neutral. When this occurs the alkali should be stopped and uro-

tropin, gr. 10, administered at four hour intervals day and night, accompanied by acid sodium phosphate, gr. 15, three times daily. If the stomach proves intolerant of urotropin, this drug may be given intravenously.

DIET

Diet should be confined to liquids for the first few days, but may be changed to semi-solid as improvement continues. Except in the acute obstructive pyelitis of pregnancy no instrumentation or catheterization should be permitted while the infection is in the acute stage.

CHRONIC PYELITIS

Chronic pyelitis is best treated by division of our efforts in the four following directions: (1) Constitutional; (2) Intravenous; (3) by pelvic lavage; (4) by administration of vaccines.

In constitutional treatment of chronic pyelitis we do not find medication quite as effective as in acute cases, but the same necessity of alkalization of the urine exists for this usually shows a strongly acid reaction, high specific gravity, and evidence of a considerable amount of vesical irritation. A dram of potassium citrate or refined sodium bicarbonate should be given every four hours day and night, until the urine gives a faintly acid, or completely neutral reaction. Then urotropin, gr. 15, should be given four times a day, together with acid sodium phosphate, fifteen grains three or four times daily. Hexyl-resorcinol is receiving considerable attention just now, and is credited by Veador Leonard as being the best urinary antiseptic in our possession. If it has the bactericidal properties claimed for it, it bids fair to revolutionize our present methods of treatment, as it makes available a medicine which can be administered by mouth. But until we have a much greater accumulation of established data it will be unwise to abandon any of the time-tested forms of treatment to depend wholly upon it.

The patient should be placed upon a meat-free diet and the intake of all kinds of protein rigidly restricted. Plenty of water is absolutely essential. My first preference would be that from a good spring; next to that soft water of established purity, or distilled water. If none of these are obtainable, a gallon of water should be boiled each morning and the patient encouraged to drink the entire amount during the succeeding twenty-four hours. The flat taste of boiled water, concerning which

complaint is so often made, may be eliminated by re-aeration, which is best accomplished by passing it through a porous stone filter into which the water may be poured directly as it comes from the boiler, cooling and aeration thus accomplished at the same time. A good supportive tonic is indicated in a majority of cases, as these patients are frequently weak, anemic and generally "run down".

INTRAVENOUS TREATMENT

We have recently made use of mercurochrome in a number of pyelitis cases, as this drug has received the approval of a number of the most distinguished American urologists. I am unable to report any very brilliant results following the use of this agent, but I have found it an excellent antiseptic, and, in those cases which do not respond to other treatment, unhesitatingly recommend that it be given a trial.

Urotropin, already mentioned, has proved useful in certain stages of the disease. Several pharmaceutical houses now supply this drug in measured ampules, making its administration a very simple matter. Chetwood was, I believe, the first at least in this country, to advise the use of neo-arsphenamin in the treatment of pyelitis, from which he had obtained very favorable results. Hisson of Wichita recently reported fifty cases treated with neo-arsphenamin, the age of the patients ranging from two years to middle life. He found this drug extremely beneficial even where there was no history of syphilitic infection. We have given this treatment a very thorough trial and found that in certain cases, it was undoubtedly of great benefit. Though our experience must be considered limited, we heartily endorse the findings of previous observers, and feel that the use of this arsenical is to be advised, though reliance should not be placed on it except in conjunction with other treatment.

PELVIC LAVAGE

Pelvic lavage is, of all the therapeutic methods recently introduced for the control of renal infections, unquestionably the most beneficial, having successfully withstood the most severe tests of its efficiency. The technique consists in the passage of the ureteral catheter on either or both sides, according to whether the infection is unilateral or bilateral. The mere mechanical act of passing the catheter is of benefit and it frequently provides us with

much needed information regarding the existence of ureteral obstruction, angulations or strictures, or the presence of hydronephrosis. When the catheter has reached the renal pelvis a specimen of urine should be drawn off for examination and possibly culture and animal inoculation. The solution selected for lavage should then be slowly and carefully injected into the pelvis, the amount used being governed by the sensation of the patient; as soon as there is the slightest sensation of pain or distention, the fluid should at once be slowly aspirated. At present I am employing a two per cent mercurochrome solution for pelvic lavage. My second choice would be nitrate of silver in one per cent. solution, although protargol has given splendid results in my experience. Nitrate of silver seems, however, to be the favorite agent of urologists throughout this country, some giving it in solutions as strong as five per cent. In answer to the very frequent question as to the frequency with which pelvic lavage may be administered, I can only say that each case must be individualized and the treatment governed by the particular patient's symptoms and reactions, as well as the cultural findings in the urine. In general, I give lavage at intervals of about two weeks.

VACCINE TREATMENT

As the course of pyelitis, even in the relatively mild cases, is a long one, and the effect of the infection very far reaching, we must, if we avoid failure, employ every means of combatting it which can be placed at our disposal, and in no case confine ourselves to the use of a single weapon. In order to attack the disease at a different angle, I advise the administration of vaccines in addition to the other methods of treatment heretofore outlined. In my earlier work I obtained very satisfactory results from autogenous vaccines, but for the past two years have employed stock vaccines, which have given fully as good results, if not indeed, better, and in the last analysis must be accepted as much safer for all who are not in close touch with an absolutely dependable laboratory, as the stock vaccines may be purchased at any pharmacy.

SUMMARY

Pyelitis is a pathologic condition frequently overlooked or wrongly diagnosed, especially when it occurs in young children. It owes its origin to a wide variety of pyogenic organisms which find favorable

conditions in the kidney pelvis of those who are constitutionally debilitated or in whom some lesion of the urinary tract has induced urinary stasis. The symptoms are by no means peculiarly characteristic, and patients are often treated for long periods or subjected to unnecessary surgical operations, under wholly erroneous diagnoses. The frequent occurrence, especially in female patients, of neurasthenic symptoms, is very commonly overlooked, both by practitioners and text book writers. The wide variety and scientific accuracy of the urologist procedures now at our command make failures to recognize the existence of pyelitis inexcusable. The oral administration of urinary antiseptics, pelvic lavage and the use of suitable vaccines, afford the most satisfactory treatment.

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SURGICAL ENDAMEBIASIS

REPORT OF A CASE COMPLICATED BY
SUPHRENIC ABSCESS*

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It has been recognized for the past twenty years that the endameba are widely distributed throughout the temperate zone. Modern transportation has brought this parasite to our doors.

McGlannan of Baltimore has recently reviewed some of the work of Osler, Councilman, Lafleur and Leonard Rogers and I have made free use of the material in his paper. He also reported a case of amebiasis complicated by Subphrenic Abscess. This complication is of interest because of its infrequency—Rogers having found but five cases in eighty-five abscesses of the liver, while in the same series there were thirty lung abscesses and six empyemas.

The surgical interest of amebic infections lies in the complications following intestinal lesions. The most important of these is amebic abscess of the liver. Less frequently there may be abscess of the spleen or brain. Peritoneal abscess may form as the result of slowly perforating ulcers of the bowel wall. The extension of liver abscess may involve the subphrenic space or the pleural or pericardial spaces. Lung abscess is not infrequent. Appendicostomy and Cecostomy to allow irrigation of the infected bowel are now less fre-

quent, since the general use of emetin began. E. Birt of Shanghai is said to be convinced that many cases of Gastric and Duodenal ulcer are due to Ameba and strongly urges routine search in these cases.

Leonard Rogers in his book on "Bowel Diseases of the Tropics" describes the Pathology. "The initial lesion in the bowel is a pinhead raised dot of exudation in the submucosa covered by intensely congested or hemorrhagic mucous membrane. This mucous membrane is soon eroded, and a yellow spot of the gelatinous material infiltrating the mucosa shows at the apex of the red dot. This early punched-out ulcer becomes oval in shape with its long axis across the lumen of the bowel. Extension of the ulcer follows the course of the blood vessels encircling the bowel in the submucosa, which leads to necrosis of the overlying mucous membrane by pressure and interference with its blood supply. In this way the process extends, forming undermined ulcers with advancing edema and thickening of the submucosa." Eventually the muscularis and serous coat may also be destroyed with a resultant localized or generalized peritonitis depending upon the activity of the omentum. Hemorrhage occurs when a large vessel is eroded by the advancing ulceration. However, there are always normal areas of mucosa to be seen with the proctoscope which is in contrast to the generalized involvement in cases of Ulcerative Colitis. The lesions are limited to the large bowel and terminal ileum. They may be limited to the Cecum and Ascending Colon while in others they are most pronounced in the sigmoid and rectum. "An important observation is the relative infrequency of dysenteric symptoms when the ulcers are limited to the higher portions of the large intestine. This fact explains the occurrence of liver abscess and other complications in patients who give no history of dysentery" (McGlannan, A.). In the early stages of the intestinal infection the ameba are found in the neighboring blood vessels and this fact makes it logical to assume that the Portal vein is the means of transportation to the liver. Councilman and Lafleur, however, object to this theory because it would seem to cause multiple liver abscesses rather than the solitary one, and they argue that it is far more likely that amebas reach the liver by way of the abdominal cavity than by

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way of the blood or lymph vessels. It is their opinion that the amebas pass from the intestine into the peritoneal cavity and enter the liver directly or they are carried along the upper surface of the liver beneath the diaphragm. The extensive destruction of liver substance is preceded by diffuse necrosis of liver cells which is thought to be due to absorption of chemical products of the ameba from the large bowel. It is interesting to note that no such preliminary necrosis is observed in cases of amebic abscess of the lung.

DIAGNOSIS OF AMEBIC DISEASE OF THE LIVER

The appearance of fever, sweats, pain, tenderness and enlargement of liver, loss of weight and digestive disturbances should suggest the possibility of amebic infection of the liver whether or not there is any history of dysentery. These symptoms will be present in the presuppurative stage as well as in the presence of actual abscess and immediate emetin treatment may clear up the hepatitis before abscess formation occurs. The leukocytosis may be high and one would expect a relatively lower Polymorphonuclear count than in the pyogenic infection. Eosinophiles are slightly increased. Secondary anemia may be profound in cases of long standing. Jaundice is unusual. Pain is frequently referred to the right side of the neck and right shoulder through the Phrenic nerve. The area of liver dullness is increased and the lower border extends downwards. The abscess may point in the Epigastrium, under the Right Rectus muscle, or may cause the right lower chest to bulge with widening of the interspaces.

In Subphrenic Collections there is diminution or absence of breath sounds in the right lower chest which with sepsis, respiratory difficulty and bulging of interspaces with dullness to flatness simulates Empyema. The Roentgen ray is invaluable. It shows that the diaphragm is raised; that it is stationary on respiration, and that there is relatively clear lung above it.

The most common complication of amebic liver abscess is gradual extension through the diaphragm into the lung. Pleural protection is present and therefore Empyema is rare. Rupture into the colon or duodenum may occur. Hemorrhage within the abscess cavity may cause death.

The accepted treatment of amebic liver abscess is incision and drainage with irrigations of amebicidal solutions. Blind aspiration is dangerous. Brain abscess has

followed puncture of lung in transpleural aspiration. Open drainage has been advised against because of the danger of secondary infection. Constantine (Internat. Abstr. Surg. Feb, 1925, P. 128) reports success by evacuation of amebic liver abscesses and immediate closure without drainage and followed with Emetin treatment.

The following report is that of a case of Amebic infection complicated by Subphrenic Abscess.

REPORT OF A CASE.

A healthy man of 23 years who was a recent graduate of The School of Geology, University of Oklahoma, accepted, in January, 1923, a position with a company prospecting for oil in South America and Mexico. He was not well informed as to the danger of Tropical or Parasitic diseases. In his necessarily nomadic type of existence his food was often of questionable quality and poorly cooked and his sanitary environment was not of the best. However, these conditions did not interfere with his work and his splendid health until August, when he had a severe chill in the high altitudes of the mountains of Venezuela, S. A. Within 24 hours he had recovered from this attack, except for generalized muscular pains and lassitude, and resumed his work until the latter part of September when he was confined to bed for several days with widely distributed pains in extremities and trunk, slight fever and malaise. Examinations of blood for Malarial plasmodia were negative. A diagnosis of Dengue Fever was made at this time.

After this illness patient worked for a month but did not feel well. In first few days of December, 1923, while in vicinity of Tampico, Mexico, he began to have fever, anorexia, twitching of muscles of right upper quadrant of abdomen and pronounced malaise. There was no nausea, vomiting, or diarrhea or severe abdominal pain.

On December 11th, he was taken to a hospital in Tampico and operated upon. A telegraphic communication gave us the following information:

"A moderately inflamed but free appendix was removed. The cecum was inflamed and doughy to feel. Mesentery about cecum filled with glands, the size ranging from pea to small plum. The large gland was removed and examined. It showed simple inflammation and no evi-

dence of tuberculosis or malignancy. There was considerable clear fluid free in abdomen. An amoebic condition was suspected but an incision of the upper right quadrant revealed no pathological condition. Diagnosis: Appendicitis and Typhlitis."

He was discharged from the Tampico Hospital two weeks after operation with wounds healed. However, his general condition was not improved; there being daily rise of temperature to 101-102 degrees, no cessation in soreness and twitching of upper right abdominal wall and an increasing soreness in right lower back attended by some dyspnoea and pain noticeably increased on deep inspiration.

Becoming alarmed, he returned to his home in this state and was admitted to University Hospital, Oklahoma City, on January 9, 1924. His condition on entrance is shown in the following admission note:

Temperature 102° F. Pulse 106. Respiration 26. Blood pressure 126/80. Patient is pale, emaciated, restless, nervous, with evident dyspnoea and evident pain in right side accentuated by respiration.

He looks ill and has an anxious, apprehensive facial expression. He complains of soreness in right shoulder and right back and twitching of abdominal muscles. There is no Cyanosis or Jaundice. Skin is hot and moist. Mentally clear but all his attention is focused on constant pain in right upper quadrant of the abdomen radiating around right side to posterior right lower chest.

Reflexes normal. Moderate general adenopathy. Heart normal, except for a slight displacement to left. Abdomen normal contour with generalized tenderness and increased tension of all abdominal muscles. Four inch oblique scar in right lower quadrant and two and on-half inch vertical scar in right upper rectus.

Abdomen tympanitic but no evident distention—Auscultation reveals movement of gas. Lower border of liver is just palpable and is very tender. Spleen enlarged, its lower pole being distinctly palpable.

There is some evident bulging of right lower chest and the intercostal spaces are partially obliterated. There is flatness in front from fourth interspace to Costal margin and behind from level of sixth dorsal vertebral spine downwards. Respiratory sounds are absent over this area.

There is marked diminution of expansion and excursion of right lung.

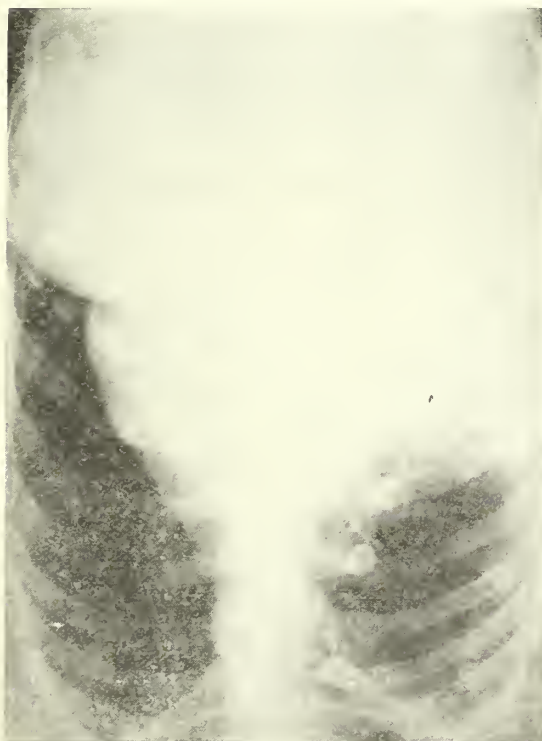
Jan. 10, 1924, W.B.C. 17,750 with 91% Neutrophils, 1% large Lymphocytes and 8% small Lymphocytes—Eosinophiles none. R.B.C. 2,450,000 with 55% Hbg. Diagnosis:

Subdiaphragmatic Abscess with Sepsis and secondary anaemia.

There was no diarrhea. Stool examinations on January 10, 1924, and January 11, 1924, were negative for amoebae. A third examination on January 11, 1924, showing moderate number of amoebic Histolytica.

Fluoroscopy and Röntgenogram on Jan. 11, 1924, showed highly fixed diaphragm on right having appearance of being pushed up. A dense shadow above right diaphragm obliterated outer third of diaphragm and extended upward toward right axilla. Heart was displaced towards left.

The Röntgenogram is reproduced here.



SHOWING RIGHT DIAPHRAGM FIXED IN HIGH POSITION. DENSE AREA OF OPACITY ABOVE THE DIAPHRAGM OBLITERATES THE OUTER THIRD OF THE DIAPHRAGM AND EXTENDS UPWARD TOWARD THE RIGHT AXILLA. THIS IS NOT FLUID BUT THICKENED COSTAL AND DIAPHRAGMATIC PLEURAE. THE SUBPHRENIC SPACE WAS ENTERED.

The Dyspnoea, right chest pain and septic type of fever (from 102 to 103 degrees daily maximum) continued and the white blood cell count on the 13th was 20,500—Neutrophiles 82%. Basophiles 1%. Transitional 4%. Large Lymphocytes 2%. Small Lymphocytes 9%.

A positive diagnosis of Subphrenic Abscess, right side, due to Ameba Histoytica, was made on January 14th. Operation of Incision and Drainage done. A five-inch incision was made over the 9th rib in the mid axillary line. Four inches of the ninth rib removed. The Diaphragmatic and Costal pleuræ were adherent causing complete obliteration of the right Costo-Diaphragmatic angle of the pleural cavity. An incision through the adherent pleural layers and tense, thin diaphragm entered the abscess cavity. About one pint of odorless pus was evacuated. At first thick and creamy it finally became serous in character with many suspended white clumps. Cultures and smears were taken. Cavity beneath arching Diaphragm reached sixth rib above. At the bottom of cavity a slight depression suggested its Hepatic origin. Two quarter inch drainage tubes placed and skin closed with interrupted silkworm-gut sutures.

The pleural cavity had not been invaded at any time.

The operation required twenty (20) minutes.

His condition remained good throughout, the Diaphragm dropping down so as to obliterate the cavity between it and the upper surface of the liver, immediately after evacuation of contents.

The cultures were sterile—this is not an unusual report in amebic abscesses that have existed for several weeks.

The temperature dropped to normal within 12 hours and remained so for the remainder of his stay in the hospital. There was immediate relief of dyspnoea; and pain and color and strength rapidly improved. There was profuse sanguenopurulent drainage for six days (cultures from which did not show ameba or bacteria) and then a rapidly diminishing amount. The tubes were removed on the tenth day and the wound was entirely healed on the sixteenth day.

Emetin Hydrochloride gr. 1/10 was given intramuscularly four times a day from day of operation.

Stool examinations on the 29th, 30th, and 31st, were negative for Amoeba. His white count had dropped to 13,650; Neutrophiles 67%, Large Lymphocytes 13%, and Small Lymphocytes 20%. His R.B.C. was 4,500,000 with 80% Hbg. His general condition had shown a remarkable improvement. He left the hospital on the first day of February, returned to work within a few weeks, and is now back in the tropics with a better knowledge of Parasitology, both from personal experience and from the many books on the subject which he acquired.

COMMENT. SOME OF THE PROMINENT ASPECTS OF THIS CASE ARE:

- (1) The difficulty of finding amebae in the pus. The thick whitish creamy pus which was sterile on cultures and free from bacteria on smears made us certain that the abscess was not a pyogenic one. The abscess walls were not scraped because they were tense and thin and we did not wish to disturb localization of the infection. As a rule repeated scrapings are necessary to demonstrate the ameba in abscess cavities.
- (2) The popular idea of pus from amebic abscess of the liver is that it should resemble "anchovy sauce". This reddish color is present when there is extensive destruction of liver tissue. In this case the pus was whitish because the abscess had apparently started near the upper surface of the liver and had ruptured into the Subphrenic space at an early period before much destruction of liver parenchyma.
- (3) The occurrence of large Subphrenic amebic abscess in a patient who had never had dysentery.
- (4) The amazing rapidity of healing when secondary infection does not occur and emetin is given.
- (5) The value of X-ray in differentiating Subphrenic abscess from Empyema.
- (6) The relative infrequency of subphrenic abscess as a complication of Amebic liver abscess.
- (7) The evident necessity for education about Endamebiasis.

THE WELL BABY CLINIC*

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The well baby clinic of today is evolved from clinics for sick infants and milk stations. The idea in the work is the education of the mother in the care, feeding and general hygiene of normal infants and keeping a well baby well. The work is essentially educational and may be carried on by public or private agencies. In Oklahoma City, as in many other cities the public health nursing bureau sponsors the movement. Instruction by properly trained and qualified public health nurses in the homes of the babies, has proved to be one of the most important factors in keeping the mothers interested and getting them to present the child regularly at the conference. In some centers the nurses check the birth lists and then call the attending physician and if agreeable to him, make a call at the home and give the mother whatever instructions are needed, especially in maintaining the supply of breast milk.

One of the first problems encountered in the work is what income limit should be adopted for patients asking for the service. In most cases this will take care of itself, as people able to pay a physician will not ask for charity. There are exceptions to this, however. A careful social history is taken at the initial visit and the financial condition of the family determined in each instance. It is impossible to have a fixed income limit owing to the number of children, illness and other obligations. People that are able to pay a reasonable fee are referred to their physicians. This gives the children who really need the service more attention from the nurses and physicians doing the work.

The social history is followed by a history of the birth, feeding and brief statement of the child's condition, past and present. Then follow the weighing, measuring and examination by the physician. An accurate record is made of the findings, and the instructions given the mother. One of the nurses goes over the directions with the mother, explaining all details. It is easy to follow the case at

each visit with the record that is on file. The work is effective only when the child is seen at regular intervals.

The outstanding feature is the universalizing of breast feeding. Richardson has proved that the breast fed baby has five times the chance for life as the artificially fed baby. Sedgwick has blazed this trail with his wonderful work in Minneapolis, which is no doubt, the most influential of any work along this line. From his clinic the plan has spread over the entire United States. Nassau County, N. Y., has taken up the problem in an intensive campaign. There is no question as to the overwhelming superiority of breast feeding over bottle feeding. It is, indeed, unusual to find a mother that cannot at least partially nurse her baby. In Nassau County it was found that nine-tenths of the mothers could nurse their babies for one month, and two-thirds of them could do so for seven months. Richardson is of the opinion that practically every mother can nurse her baby indefinitely when given intelligent instructions. The breasts must be emptied regularly at alternate feedings. If it is found that the breasts are not furnishing the required amount of milk, every effort should be made to increase the supply, and above all to maintain the amount of secretion already present.

It is unnecessary to remind anyone familiar with infant feeding that the main points of this technique are the manual expression of the mother's milk after nursing. This procedure should immediately follow the cessation of nursing. The method of expressing milk from the human breast is merely the adaptation to the smaller anatomy of the human breast of the dairy procedure of milking. The ball of the thumb and the ball of the index finger are placed on opposite sides of the breast, at a point just back of the pigmented areola. They are then brought nearly together, with the substance of the breast between them and drawn forward at the same time until a stream of milk is ejected by the pressure thus brought to bear on the reservoir just back of the opening of the ducts through the nipple. While the baby is the best milker he is not a conscientious stripper and often will refuse to finish his job. If he will not do this the mother must do it for him by this manual expression. Chapin places the infant on both breasts at regular feeding time and

*Read before the Oklahoma County Medical Society March 27, 1926.

then has the mother express the remaining milk. If the mother cannot provide enough milk the child is placed on complementary feedings.

The artificially fed infant more frequently develops signs of malnutrition than the breast fed, even if the secretion is poor. Boots in a series of 663 infants has considered the types of feeding employed, and the physical side of children lacking medical care and supervision. One of the outstanding faults was the low incidence of breast feeding; 71% were nursed for only one week. The general physical condition of artificially fed infants was less encouraging than that of breast fed infants. In a recent survey made by the state department of health of a second class city in New York State, very largely industrial, and in which a great many women were employed in the various industries, some rather striking facts were brought to light regarding infant mortality. The figures were based on some thousand infant deaths during 1923. Approximately 30% of the deaths were among infants who were never breast fed, or breast fed for less than three months, constituting an infant mortality of 274. Twelve per cent were breast fed from three to six months, with a mortality rate of 102, and 58% were breast fed for six months or longer, with an infant mortality rate of 3.4%.

If for some reason the child must be taken from the breast, the mother is given a formula and is instructed in preparing it in the kitchen at the clinic. A follow up visit is then made by the nurse in that district. As the child grows older the formula is changed, if one is used, and other foods are added at the proper time. A diet card is given for each month with schedule and all needed directions.

The pre-school child is included in the work if the clinic is large enough to provide that care. In children of this age attention is given to nutrition, mental habits, mouth hygiene and health habit promotion in general. No child welfare campaign is complete without careful attention to the communicable diseases. They may be prevented to a certain extent by careful hygiene at home and at school. The

fact cannot be too strongly emphasized that such diseases not only weaken and retard the growth of children for the time being, but very often leave them crippled by a damaged heart, kidneys, etc. Mothers are urged to see that their children are immunized against the diseases that we can successfully prevent. The actual work is not done at the clinic but the patient is referred elsewhere. At any time the child becomes sick it is referred to its private physician, if it is at all possible for such service to be arranged or to a general clinic, providing for the care of sick children.

Now what can be hoped for in carrying on work of this kind? First, a well nourished child has a better chance of standing the strain of living than one in a state of poor nutrition. It is safe to say that the chief causes of defects of constitution in adults, are often due to lack of oversight and good care during the first years of early childhood. These children are in many instances to be cared for during illness by agencies supported by taxes and it is a saving in dollars and cents to the community, not only when they are children, but even after they become grown. If many of these defects can be prevented more efficient citizens will be the result.

Again, a lowering of the mortality rate has been noted in places carrying on the work on a large scale. We can get some idea from the figures that come from the Nassau County experiment. In 1920 there were 70 deaths per 100,000; 1921, 67 deaths per 100,000; and 1922 there were 78 deaths per 100,000, or an average of 72 deaths per 100,000. In 1923 a wide campaign was made especially as to breast feeding and for that year there were 64 deaths per 100,000. At the clinics 2815 children were supervised and the rate for this group for that year was 49 per 100,000. The death rate in Minneapolis 1924, where Sedgwick is carrying on his work, was the second lowest of any large city in the United States, 53 per 100,000. The work is only in its infancy but the results already show a certain reduction in diseases of infancy and in mortality. There is no doubt that even greater results will come as the work is extended and the same principles applied to private practice.

POLYCYSTIC KIDNEY

JULIUS FRISCHER, M.D.
KANSAS CITY, MISSOURI

A study of Polycystic Kidney was first given by Malassez in 1876, who conceived the cause as that of a new growth and associated it with cystic disease elsewhere in the body. Various authors since, with many different opinions and theories, have attempted to explain the pathology and causative factors of this terrible malady in which the suffering individual has such an unfavorable prognosis. The underlying cause of the formation of these cysts has not been fully determined and it is of interest to discuss the various theories expounded.

Preitz in 10,000 autopsies in the Pathological Institute at Kiel found sixteen cases, .16 per cent of Polycystic Kidney. The Boston City Hospital records between the years 1896-1906 in 2,429 autopsies show 0.41 per cent of Polycystic Kidney.

In 1914 Barnett ¹ made an attempt to gather accurate data from the Urologists and Surgeons of the United States on the "numerical, diagnostic and prognostic statistics," of polycystic kidney as occurring in the United States. The whole number collected was 251 cases. Of this number there were reported to him 101 unilateral. Many of the men reporting these cases did not have autopsies, therefore, they could not conclusively state that many of these cases were not bilateral.

Typical Polycystic Kidney is a bilateral affair and occurs more frequently between the ages of forty and sixty. Some cases have been discovered at childbirth or in infancy. The fact that the disease does not occur between infancy and forty years of age makes it difficult to understand how a congenital condition present at birth can have any bearing on a disease which we have to contend with in later life. Collected cases show it occurs slightly more frequently in the female than in the male.

Israel Steiner and Lowenstein claim Polycystic Kidney is a congenital and a hereditary condition with familial tendencies. Singer and Brans ² reported that the number of cases in children is quite small. It is rarely discovered in infancy. Glasser in 1918 reviewed the literature and found but twelve cases reported as observed during the first year of life. Tow ³ recently

reported the case of a six-year-old male child. Greene ⁴ reported a child three years old whose kidneys were atrophic and could not be palpated during life; nor was there any cardiac hypertrophy. Phthalein test was performed several times and revealed an excretion of four-tenths per cent. The non-protein nitrogen was 48 mg. for each 100 cc. and the carbon dioxid capacity was 18% by volume at the same time, although this later rose to 41% after a transfusion had been done.

ETIOLOGY

Virchow believed that the cysts were true retention cysts and resulted from an occlusion of the urinary tubules in consequence of an inflammation of the interstitial tissue. Atresia and obliteration of the collecting tubules with cyst formation followed.

The theory of maldevelopment first suggested by Von Mutach is the popular one today. This author in a study of embryonal and cystic kidneys recognized the striking embryonal characteristics of the cystic organs. No infant with palpable cystic kidneys can live very long. However, enough functioning tissue may be present to permit life to continue for many years. Crawford ⁵ discusses three etiologic theories.

1. Embryonic.
2. New Growths.
3. Inflammatory.

1. The kidney is formed from the mesonephric portion of the Wolfian body at the end of the fourth week, with the exception of the pelvis, calyces and collecting tubules. These develop from the Wolfian Duct. A failure of the collecting tubules to unite with the secreting tubules gives rise to cystic formation. This gives us the theory of malformation. Embryos with polycystic kidneys, frequently show anomalies of the urogenital tract, also, anomalies in other organs such as harelip, hydrocephalus, supernumerary toes and fingers, club foot, rickets, etc.

2. The theory of new growth supported by C. Nauwerck and K. Hufschmid is not held today. Malassez first conceived this theory. Brigid and Severi believed that the cyst contents were protoplasm of the epithelial cells fused together. They called it multilocular cystadenoma.

3. Virchow theory of inflammation has now been entirely abandoned

GROSS PATHOLOGY

Gross pathology shows a degeneration of both kidneys but not always of an equal degree. The size of the kidneys varies. Morris reported a case with polycystic kidney weighing fifteen pounds. The cysts are multiple, invading every portion of the kidney and are present in both kidneys. These cysts appear to be developed in the convoluted tubules. They might be very large or small and vary in size from 1/2 cm. to 8 cm. in diameter. The capsule of the kidney is not smooth and is very thin. The kidney has the appearance of a cluster of grapes adherent to each other. The septa or membrane separating the cysts are very thin. The surface is rough and irregular, giving it a knobby appearance. The normal kidney shape is preserved in many cases. The color is variegated, yellow, grayish, reddish or brown according to the color and consistency of the fluid present in the cysts. They are filled with a mucilaginous fluid which can be turbid, transparent or serous. The fluid may be urinous, contain uric, hippuric acid, calcium oxalate, cystine, tyrosin, leucin cholesterolin, blood and fat present. The walls are usually very thin and show remains of septa, where adjacent cysts have coalesced. In some instances the cysts break down, abscess follows and the latter empty into pelvis of kidney with a resulting hematuria.

It is amazing to what an extreme degree cystic degeneration and lack of good kidney substance may exist and yet the kidneys remain competent to perform their function. In our case, grossly, no trace of renal tissue is present, yet this man lived to be fifty years of age. Cysts are present in the liver in a number of cases. Eisendrath⁶ claimed cysts were present in 18% of all cases of polycystic kidney. In our case we found a cyst in the pericardial sac.

The microscopic picture in these cases confirms what has previously been said in the discussion of etiology. Both the Malpighian corpuscles and tubules show all stages of change from the slightest dilation to actual cyst formation. These cysts are such in the truest sense of the word. They do not communicate with the renal pelvis or calyces, but often intercommunicating channels can be demonstrated. The cyst wall in its contact with the renal parenchyma causes a marked pressure atrophy in process of gradual growth and

a resultant secondary fibrous change. This fibrous tissue undergoes hyaline degeneration.

The epithelium lining of the cyst cavity is often papillary with many projecting buds. The contained fluid is yellowish and upon microscopic examination is found to contain granular and epithelial detritus. The vessels show fibrous degeneration and often a marked inflammation of their various coats. Round-cell infiltration is frequently seen scattered throughout the polycystic kidney and may even occur in the peri-renal tissue.

SYMPTOMATOLOGY

In some cases patients with polycystic kidney can reach the third and fourth decade without appreciable symptoms. In the author's case the individual was without symptoms until his forty-eighth year. A patient's attention may be attracted to his condition by a fullness in the loins or by gastric symptoms with some distress and tenseness in the abdomen from distension. Pain of a varying character, perhaps, renal colic at intervals with a urine of low specific gravity, also, hematuria, which will clear up in a few days only to commence again a little later. A disturbing symptom is frequent urination with an excessive output of urine. In the later stages arteriosclerosis with constitutional symptoms followed by abdominal ptosis with loss of weight. Some patients have a bronzed appearance. Skin is dry. Fever is not present as a rule, unless one of the cysts break down and abscess follows. That the symptom of renal infection may predominate and thus obscure the real underlying disease is not generally known as it deserves to be. Secondary left-sided cardiac hypertrophy accompanies general arteriosclerosis. A severe anemia may intervene. Petechial hemorrhages may appear as a terminal event. Patient sinks rapidly and dies of anuria, uraemia and coma.

DIAGNOSIS

Tumor formation is present in one or both flanks having the contour of the kidney. If both organs are involved the diagnosis of polycystic kidney is almost certain as this is practically the only tumor of the kidney, regularly, of a bilateral character. The tumors may attain a large size without producing many symptoms; they will appear to grow antero-posteriorly but are irregular and nodular extending

well down into the flank. Urinary findings, urine of a low specific gravity at first and which may be negative, later contain red blood cells, white blood cells and albumin.

The author found blood chemistry of great value in the diagnosis, especially, estimation of non-protein nitrogen, urea nitrogen, and creatinin. With degeneration of kidney substance and destruction, blood chemistry estimation is made. Differentiation between hydronephrosis, pyonephrosis and hypernephroma can usually be made by ureteral catheterization and pyelography. Dye functional tests of the kidney are, also, helpful to determine function.

X-ray and urography can be of immense assistance in border-line cases and should be used. Some urologists in the past have been wary of pyelography in polycystic kidney. Some roentgenologists, also, were of the opinion that these cases should not be X-rayed. In our case no damage to the kidney by pyelography was ascertained at autopsy. This case had an X-ray examination and pyelography eight months previously.

TREATMENT

Polycystic Kidney is not a surgical disease. In its clinical aspect it is a chronic interstitial nephritis.

Surgical treatment with multiple incisions and puncture of cysts by Rovsing, is a palliative measure. Lund claimed some improvement in four cases by doing this. On account of the tremendous degeneration we cannot agree that any good permanent result is obtainable by operative procedure. The relief obtained is only temporary.

Case Report: C. E. T., age 50. Married. Had four children, three died. One died during childbirth, one of pneumonia, one unknown. Mother died of kidney trouble. Father died—cause unknown. One brother died from kidney trouble. We were unable to ascertain whether or not this man died of a polycystic kidney.

Chief Complaint: Has a frequency of urination for the past two years and enlargement in loins. Distension of abdomen.

Physical Examination: Patient appears to be about 5 feet, 11 inches tall and weighs about 155 pounds. Skin is dry and has a bronzed appearance, some anemia present, has an enlargement in loins, region of both kidneys, which he has noticed

for the past eleven months. Sometimes the enlargement disappears to some degree.

Temperature 98. Respiration 20. Pulse 100.

Laboratory Examination: Urine Cath. Alkaline, negative for Sugar. Sp. Gr. 1005. Microscopical shows an occasional blood cell, 12 white cells per high power field.

Blood Chemistry Urea-Nitrogen 150 M. G. per 100 cc. Blood Wassermann, Negative.

Cystoscopic Examination: Discloses a trabeculated bladder with a slight increase in capacity. Both orifices were slightly enlarged. Five French X-ray catheters were used. Indigo Carmine 5cc. injected intravenously did not show up in a 25 min. period. 55 cc. of Sodium Iodine, 12%, was used on the right side for filling. 45 cc. Sodium Iodine, 12%, was used on the left side.

CATHETERIZED SPECIMEN	LEFT SIDE
Casts	Granular
Red Blood Cells	None
White Blood Cells	10 P. H. F.
Crystals	None
Epithelial Cells	Few
Mucus	None
Bacteria	None
Urea Concentration	.0007

CATHETERIZED SPECIMEN	RIGHT SIDE
Casts	Granular
Red Blood Cells	None
White Blood Cells	10 P. H. F.
Crystals	None
Epithelial Cells	Few
Mucus	None
Bacteria	None
Urea Concentration	.00065

X-ray Examination by Dr. Dann: Both injected kidneys show marked deformities. The left kidney pelvis and calyces have retained some semblance of the normal contour but is considerably enlarged. The calyces branch out irregularly, appear clubbed and more or less circular with cup-shaped deformities. The right kidney pelvis and calyces have lost all semblance of their normal contour. The injected pelvis and calyces appear elongated with more or less circular knobs at their extremities. The upper portion of the injected mass appears irregularly oblong in shape with smooth, concave superior and interior borders. The above findings are characteristic of the deformities observed in polycystic kidneys.

Autopsy: The body is that of a male, white, about 50 years of age, well developed, but poorly nourished. There is no post mortem rigidity, or lividity. Six feet in length.

On median section, the panniculus is poorly developed.

On opening the abdomen, there was an escape of clear serous fluid. The peritoneal lining was clear and glistening. There was no escape of free gas. On removal of the breast plate, a moderate amount of clear serous fluid was seen in both pleural cavities. The right upper and middle lobes were bound to the postero-lateral chest wall by fine web-like adhesions which were easily broken up.

On opening the pericardial sac, a small amount of clear serous fluid was seen.

Heart: Appeared about normal in size.

The epicardium appeared normal, and on cut section the musculature appeared to be of a light brownish red color. The ventricular walls did not appear definitely thickened. The aortic and mitral cusps appeared slightly thickened. The coronary arteries did not appear sclerosed.

NOTE: A cyst about the size of a walnut was found attached to the inner surface of the pericardium at its juncture with the aorta.

Lungs: The surface of the right lung appeared slightly blackish gray, easily compressible throughout, no nodules felt, no contracted areas at the apices. On cut section, the parenchyma appeared slightly pinkish gray. The same findings were noted in the left lung.

Kidneys: Both kidneys appear enormous in size, measuring eleven inches in length and five and a half inches in width, across the median portion. The entire surface is studded with innumerable cysts, irregular in size, and varying in color, from clear yellow to deep red. No areas of normal kidney tissue could be observed. On cut section, the left kidney showed the same number of innumerable cysts without any demonstrable, apparently normal, kidney tissue. The ureters appeared normal in size and shape. The bladder appeared normal in appearance with normal trabeculation. No visible variations from the normal could be observed in the prostatic tissue.

Adrenals: The adrenals appeared moderately enlarged and flattened. No dis-

tinct visible variations from the normal could be observed.

Liver: The surface appeared smooth and normal in color. The liver did not appear to be abnormal in size. The cut surface appeared of a slight yellowish brown color and of normal consistency.

Gall Bladder: No variations from the normal could be observed. The wall was not thickened and the bladder was easily emptied. There were no calculi.

Spleen: Normal in size, of a purplish red color, moderately soft, and the cut surface showed a soft pulp which could be scraped away with a knife.

Stomach: No variations from the normal were observed.

Pancreas: No variations from the normal were observed.

Aorta: The entire intima showed longitudinal yellowish patchy streaking. There were no pearly elevations.

Anatomical Findings: (Pathological).

Polycystic condition of both kidneys.

Solitary cyst of pericardial sac.

Hyperplastic spleen.

Atherosclerosis of the aorta.

Abdominal ascites.

Pleural transudates.

Pleural Adhesions.

Diagnosis: Double polycystic kidneys.

SUMMARY

1. Polycystic Kidney is relatively rare. A diagnosis will more often be made by means of our more modern methods, cystoscopy, urography, etc.

2. The question of etiology is one of maldevelopment as held today by most investigators.

3. When a definite diagnosis has been made, nephrectomy is absolutely contraindicated due to the bilateral nature of the disease. Surgical treatment by multiple punctures is a palliative measure and should only be used for cause.

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EDITORIAL

GUESTS OF THE ANNUAL MEETING.

Attendants at the Oklahoma City meet-
ing June 22-24, will have the pleasure of
meeting and hearing several men remark-
ably and favorably known in their respec-
tive fields. Among those who have signi-
fied their intention to be present are:

Jabez N. Jackson, president-elect, Ameri-
can Medical Association.

Colonel Henry Rutherford, Surgeon, M.
C., U. S. A., 8th Corps Area, San Antonio.

Dr. C. R. Hannah, Dallas, Texas.

Dr. C. C. Conover, Kansas City, Mo.

Dr. Walter Baumgarden, St. Louis, Mo.

Dr. J. Hoy Sanford, St. Louis, Mo.

Dr. Julius Frischer, Kansas City, Mo.

Dr. H. G. Walcott, Dallas, Texas.

Dr. Willis C. Campbell, Memphis, Tenn.

Dr. John O. McReynolds, Dallas, Texas.

—o—

OKLAHOMA ANTIVIVISECTIONISTS.

The International Order of Dog, Cat
and Pig Protectors have recently become
greatly perturbed at Oklahoma City over
alleged "cruelties" of embryo medical
scientists, and according to dispatches are
vigorously protesting to the City Commis-
sioners their recent permission to Oklaho-
ma University Medical School to use im-
pounded animals for the very necessary
experimental work being carried out as a
vital apt of modern medical education.
The Commissioners are to be asked to res-
cind the permission.

This is not at all surprising and this very
situation was predicted in the JOURNAL
several years ago. No one wishes to con-
done cruelty to a helpless animal, regard-
less of its worthlessness. It is unbelievable
that any real student would inflict unnec-
essary pain in mere wantonness, and the
writer has yet to observe any such practice
or disposition toward it in any of the
several medical centers of experimental
medicine attended, but it must be remem-
bered that the complainers in these in-
stances have no scientific knowledge,
sweep aside with a gesture the brilliant,
life-saving results of past experimental
work in which useless animals are made
useful and the saving of human life, intol-
erant and misguided in their zeal, which
intelligent people must agree would better
be expended upon some worthy cause. The
complainants rely upon a law which pro-
hibits experimentation upon living animals
in "public schools," overlooking the differ-
ence between these and a university which
ranks as a "Class A" institution. The
Commissioners, if they interfere in this
trivial matter will seriously injure the
Medical Department, merely to gratify a
little baseless hysteria in a small minority
of people, who apparently care more for
their self-assumed charges than they do
for humanity.

The legislature might end this farce by
enacting a law giving the University and
similar schools of advanced education au-
thority to perform necessary animal ex-
perimentation so long as the rules of hu-
manity are observed in the work. Okla-

homa can hardly take a backward step in medical, or any other branch of education. We too, have too much pride, to be found relegated to the ranks of those who are the laughing stock of an intelligent public.

Editorial Notes—Personal and General

DR. JAMES CULBERTSON, Oklahoma City, has moved to Maud.

DR. REX BOLEND, Oklahoma City, is taking some post-graduate work at Johns Hopkins, and attending the clinics at New York.

DR. F. R. FIRST, Barnsdall, with his family, left recently by auto for an extended trip to California, expecting to be gone about two or three months.

CARTER COUNTY MEDICAL SOCIETY is organizing a Ladies Auxiliary, Mrs. J. L. Cox having been named chairman of the Ardmore organization committee.

DR. NICEUS WALKER MAYGINNES.

Dr. N. W. Mayginnes, one of the most beloved members of the Oklahoma State Medical Association, passed to his eternal reward on Wednesday evening, May 19th, 1926, at a private sanitarium in Kansas City, Missouri.

Dr. Mayginnes was born at Calhoun, Henry county, Missouri, April 29th, 1856. Graduated in Medicine at Kansas City University in 1884. Practiced a few years at Atlanta, Kansas, removing to Stillwater in territorial days, he soon built up one of the largest general practices in the State. He early became interested in organized medicine and was one of the founders of the Oklahoma State Medical Association. In 1903, the growing city of Tulsa beckoned to him, and with his family he moved there, soon to be joined by his brother, Dr. P. N. Mayginnes, with offices in the Bliss Building. Dr. Mayginnes built up a large obstetrical practice, and while not confining himself to this specialty, soon became recognized as a leader in this work.

Upon the reorganization of the Tulsa County Medical Society, Dr. Mayginnes became a charter member and at one time served as President of the Society. Recognizing his inability to stand up under the strain of a hard practice, Dr. Mayginnes in July, 1922, gave up his down town office, continuing to practice some until about a year ago, failing health forced his complete retirement from active duty.

In the passing of this splendid physician Tulsa County Society has lost one of its most faithful members and the community a man loved by all. Dr. Mayginnes was greatly interested in educational work and gave up much valuable time to serve as a member of the Tulsa School Board for 14 years, being president of the same four years. As a citizen he will be greatly missed. He was a member in an official capacity of the First M. E. Church of Tulsa. He is survived by his widow, two married daughters, one son, six brothers and ten grandchildren. Funeral services, largely attended, were held in Tulsa, May 22nd.

The passing of Dr. Mayginnes removes from the ranks of our Association a willing

worker who was always ready to do his part for the building of our profession.

The sympathy of the entire membership goes out to his bereaved family in this their hour of sorrow.

C. T. HENDERSHOT.

AN APPRECIATION.

Dr. N. W. Mayginnes has passed to his reward. He was during many years one of, if not the best friend I had, in the profession and personally. He was the real representative of that type which has now almost passed away, viz.: the family physician. He was the ideal physician, in that suffering humanity never appealed to him in vain regardless of any hope of financial remuneration—the lowliest poor were gladly and faithfully given his services without thought of recompense; no night was too cold or too stormy for this great, good man to go to the aid of the suffering human. He was a righteous man and never in my life did I ever hear him say an unjust word about anyone. While he was a foe of the grafting doctor, he condemned only his method and not the person. He stood for the highest ideals of good citizenship and gave freely of his services to his chosen community, and served faithfully when called on to do so. He always met you with cheerful greeting and a broad smile and was never anything but most cordial. In all affairs medical he stood solidly behind the ethics of the profession, and he was never found participating in any small politics in its affairs. He was a most excellent general practitioner and was quick to grasp the gravity of his case and seek assistance at the earliest moment he deemed it necessary. Jealously was as far from his nature as were the most evil thoughts. He wished his colleagues all the luck and success in the world and was happy to know that they succeeded.

Dr. Mayginnes was more than a physician; he was more than a humanitarian; he was more than an upright and good citizen—he was the good Samaritan of this community and the profession of the State, and Tulsa has lost one of its great, good men.

G. A. WALL.

DR. A. J. POPE, Hanna, has moved to McAllen, Texas.

DR. JAMES L. PATTERSON, Elk City, has moved to Duncan.

DR. T. R. PRESTON, Weleetka, is taking a three weeks' clinical course in Chicago.

DR. J. C. REYNOLDS, Frederick, is attending a post-graduate course at the Mayo Brothers Clinic.

DR. ERNEST E. NUNNERY, Miami, has succeeded Dr. F. Flinn at the U. S. Bureau of Mines Clinic at Picher, Dr. Flinn having resigned and is now at St Mary's Hospital, Decatur, Ills.

OTTAWA COUNTY MEDICAL SOCIETY held its last meeting of the summer at the Camp Medical on Cowskin River June 2. The program for the meeting was furnished by Dr. H. C. Ricks, of the state medical laboratory at Oklahoma City.

DOCTOR JOSEPH A. OVERSTREET

Funeral services for Dr. J. A. Overstreet, who died May 27th, 1926, were held at his home in Kingfisher, Sunday, May 30th, a large crowd of friends and relatives being present. Dr. Overstreet was the son of Rev. and Mrs. R. M. Overstreet, and was born in Georgetown, Texas, May 8th, 1859.

He attended medical college at Kansas City, Chicago, and Bellevue Medical Hospital, from which institutions he received his medical degrees.

After practicing medicine in Kansas he came to Kingfisher, April 22nd, 1889, where he has been practicing medicine ever since.

He was married to Miss Ella Poggenberg, of Columbus, Ohio, October 4th, 1892, who survives him.

Of his immediate relatives there survive him, his brother, Jesse C. Overstreet, Anadarko, Oklahoma; his sister, May Overstreet, Beaver, Oklahoma; Mrs. Bruce L. Keenan, Tahlequah, Oklahoma; Mrs. Frank MacLennan, Topeka, Kansas; Mrs. J. M. Parrington, Emporia, Kansas.

Dr. Overstreet spent his life in the active practice of his profession, medicine. His friends and patients bear witness to the fact that he was a man who always conscientiously devoted himself to his patients, sparing neither time, strength, nor his own convenience. He considered his profession to be worth his best and gave it just that. He carried confidence into the sickroom and took personal interest in his patients, so that he was ever a welcome caller. The loss of Dr. Overstreet is a loss to the profession and to the community of Kingfisher.

For probably twenty years, he was the county doctor through appointment by the board of county commissioners. Likewise he was for years county health officer and Rock Island physician. He was a member of the A. O. U. W. lodge.

THE MID-WESTERN ASSOCIATION OF ANESTHETISTS will hold their annual meeting October 11-14, 1926, in Kansas City, Mo., at the same time as the Clinic Week there. Headquarters, Baltimore Hotel. An interesting and attractive program is in the process of making. Any physician or dentist desiring to read a paper should send the title of his paper to the Secretary very soon. Ralph M. Waters, M.D., Secretary-Treasurer, 425 Argyle Bldg., Kansas City, Mo.

DR G. H. STAGNER, Erick, reports the theft of his state certificate, issued in 1907, from his office. This certificate was signed by the members of the Board appointed following Statehood, Drs. Tilley, Davenport and Mohr. County Secretaries are requested to note certificates which come within their observation, and report any to this office that appear with any erasures or corrections. The number of the stolen certificate will not be published, but is known and will be checked up if any suspicious certificates are reported.

MEDICAL VETERANS OF THE WORLD WAR ANNOUNCEMENT

Dr. C. A. Thompson, Editor,
State Medical Journal,
Dear Doctor Thompson:

I wonder if you will be good enough to make an announcement for me. At our wonderfully successful dinner for the Medical Veterans of the World War at the Dallas meeting of the A.M.A., more than 250 men gave their cards or subscription blanks asking to be enrolled as members and about a dozen of them wrapped a dollar bill in the subscription blank to pay for their dues for the first year. On the way back from Dallas my grip was rifled and the envelope containing these cards and money was taken. Naturally, I am anxious to get these names again and, especially, to find those who paid their dues. I am giving the Medical Veterans a check for \$25 to cover the loss.

I believe these annual dinners are going to be important factors for the A. M. A. in two ways. Coming early in the session they give a lot of men the opportunity of getting together and hearing the leaders of the profession talk about its morale in the most helpful way. The publicity and invitations for the meeting secure the attendance of an increasing number of men who were in the Service. Our proposal is to make the Medical Veterans largely social and to preserve the spirit of service in the profession that was shown in the War times. We are going to publish a quarterly which will be devoted entirely to personal history of the men who gave service during the War, devoting all the early issues to biographies of those who have passed on.

Thanking you, and with assurances of personal regard, I am,

Very truly yours,

A. T. McCormack.
Secretary.

PROGRAM, THIRTY-FOURTH ANNUAL SESSION, OKLAHOMA STATE MEDICAL ASSOCIATION, OKLAHOMA CITY, JUNE 22, 23, 24, 1926.

PLACE: Masonic Temple, 6th and Robinson, Telephone, Maple 6080.

REGISTRATION: Physicians, residents of Oklahoma, must be in good standing for the year 1926, before eligible for registration. Registration will be made from the list of members as reported from each county society. At this time every member in good standing should have his membership certificate for this year. If you hold no such certificate, please notify both your County Secretary and the State Secretary, at once. It is suggested that all Oklahoma City members and others who may be in the City register Monday before the regular meeting in order to avoid the rush incident to Tuesday registration.

DELEGATES: Should hand their credentials to the Secretary or the representative of the Credentials Committee early upon arrival in order to facilitate the work of that committee.

PAPERS: Are the sole property of the Oklahoma State Medical Association, not to be carried away after being presented, but should be handed to the Section Secretary after delivery. They are for future publication in the JOURNAL and should be carefully prepared, typewritten, double spaced, with title, name and address of writer at the heading.

THE COUNCIL: Will meet at the Hotel Huckins Tuesday morning, 9:00 A. M. and afterwards as its business requires. All matters pertaining to the business of the Association should be presented to the Council.

HOUSE OF DELEGATES: Will meet in Harding Hall, Masonic Temple, Tuesday, 1:00 P. M. It is requested that all delegates register and file their credentials before this meeting in order to avoid delay of the meeting.

GENERAL MEETING: Will be held in Harding Hall at 8:00 P. M. Tuesday.

THE ANNUAL MEETING COMMITTEES

The following have been appointed as the Committee on Arrangements for the annual meeting of the State Medical Association to be held in Oklahoma City, June 22, 23, and 24th:

Dr. Wm. H. Bailey.....General Chairman
Dr. Carroll M. Pounders, Chairman of Committee on Information, Registration and Badges.

Dr. A. J. Sands, Chairman of Committee on Clinics.

Dr. Horace Reed, Chairman of Committee on Meeting Places.

Dr. J. B. Eskridge, Chairman of Committee on Finances.

Dr. Rex Bolend, Chairman of Committee on Entertainment.

Mrs. E. P. Allen, Chairman of Committee from Ladies Auxiliary.

SCIENTIFIC SECTIONS: All Sections will meet promptly on call of the Chairman at 3:00 P. M., excepting the Section on Genitourinary, Dermatology and Radiology, which will meet at 9:00 A. M. Wednesday. Papers must be read in the order in which they appear; if, when called the author is not present, his paper is to be called after completion of the program as arranged, except the Section alters the order. Experience indicates that it is more satisfactory to hold election of Section officers at the close of the first meeting, rather than at the conclusion of the program.

CLINICS: Schedules of the clinics to be held at the various hospitals will be obtained at the information desk, and probably at the different hotels of the City. Clinics will be held each morning of the session. Time 8:00 A. M.

LADIES AUXILIARY: Will hold an organization meeting at the University Club, Skirvin Hotel, Wednesday morning. Buffet luncheon will be served at noon. Other attractions and features will be announced for visiting ladies.

GOLF: A golf tournament for members of the State Association is being arranged for June twenty-first at the Oklahoma City Golf & Country Club. There will probably be several classes and prizes for each.

Date, Monday, June 21st. Green fees, one dollar per person. It is the tentative arrangement to give three moderate priced prizes for the three lowest net scores and the three lowest gross scores. Hand in your home course handicap to the professional before you tee off. Eighteen holes in all played any time during the day at the Oklahoma City Golf and Country Club, Oklahoma City. Mr. Dudley, the professional, will be in charge. It is requested that those intending to play send in their names prior to June 21st to one of the Committee.

PRESIDENT'S RECEPTION AND DANCE: Will be held at the Masonic Temple 8:00 P. M., Wednesday, June 23.

INVITATION FROM THE OKLAHOMA COUNTY MEDICAL SOCIETY.

The Oklahoma County Medical Society extends to the members of the Oklahoma State Medical Association a most cordial invitation to attend the Annual Meeting of the Association to be held in Oklahoma City, June 23, 23, and 24th. They especially ask that an effort be made by every member to attend this meeting so as to assist in making it one of the most successful and largely attended in the history of the Association. The Committee on Arrangements is already organized and working and is making plans to entertain you and to give you an interesting and valuable three days.

PROGRAM FOR GENERAL MEETING

Harding Hall

Tuesday Evening, June 22nd, 8:00 P. M.

Invocation—REV. E. C. MOBERLY, Pastor
First Christian Church, Oklahoma City.

Address of Welcome — JUDGE M. M. THOMAS, Oklahoma City.

Welcome From Oklahoma County Medical Society—DR. W. W. RUCKS, President
Oklahoma County Medical Society.

Response—DR. C. S. BOBO, Norman, Oklahoma.

Presentation of DR. JABEZ N. JACKSON,
President Elect, American Medical Association.

Presentation of LIEUT. COL. HENRY H. RUTHERFORD, M. C., U. S. A., Surgeon
8th Corps Area.

Presentation of DR. P. P. NESBITT, President,
Oklahoma State Medical Association.

Inaugural Address—DR. A. S. RISSE, Blackwell,
President-Elect, Oklahoma State Medical Association.

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SECTION MEETINGS

OBSTETRICS AND PEDIATRICS

DR. R. M. ANDERSON, Chairman, Shawnee.

DR. JAMES G. BINKLEY, Secretary, Medical Arts Bldg., Oklahoma City.

1. Chairman's Address—"History of Obstetrics"—DR. R. M. ANDERSON, Shawnee.

2. *The Conduct of the Average Obstetrical Case (Lantern slides)*—DR. C. R. HANNAH, Dallas, Texas.

3. *"Antepartum Obstetrical Diagnosis" (Lantern slides)*—DR. DICK LOWRY, Oklahoma City.

Discussion opened by DR. E. P. ALLEN, Oklahoma City.

Discussion continued by DR. JOHN L. DAY, Norman.

4. *"Prenatal Care"*—DR. EUGENE RICE, Shawnee.

Discussion opened by DR. JOHN H. SCOTT, Shawnee.

Discussion continued by DR. T. D. ROWLAND, Shawnee.

5. *"Some Common Errors of Diagnosis in Pediatric Cases"* — DR. C. M. POUNDERS, Oklahoma City.

Discussion opened by DR. C. V. RICE, Muskogee.

Discussion continued by DR. T. C. SANDERS, Shawnee.

6. *"The Treatment of Severe Diarrhea and Anhydremia"*—DR. C. W. ARRENDELL, Ponca City

Discussion opened by DR. JULIAN FEILD, Enid.

Discussion continued by DR. CLARK H. HALL, Oklahoma City.

7. *"The Care and Feeding of Premature Infants"*—DR. C. V. RICE, Muskogee.

Discussion opened by DR. CATHERINE BRYDIA, Ada.

Discussion continued by DR. W. M. TAYLOR, Oklahoma City.

8. *"Discussion of Genito Urinary Complications of Pregnancy"*—DR. E. L. YEAKEL, Oklahoma City.

Discussion opened by DR. ELIZABETH M. CHAMBERLIN, Bartlesville.

Discussion continued by DR. C. B. TAYLOR, Oklahoma City.

9. *"Post Partum Eclampsia"*—DR. D. F. STOUGH, Geary.

Discussion opened by DR. W. A. FOWLER, Oklahoma City.

Discussion continued by DR. JOHN A. HATCHETT, Oklahoma City.

10. *"Ablatio Placentae"*—DR. E. O. BARKER, Guthrie.

Discussion opened by DR. ROSCOE WALKER, Pawhuska.

Discussion continued by DR. R. E. LOONEY, Oklahoma City.

11. *"The Treatment of Pelvic Infection"*—DR. A. C. HIRSHFIELD, Oklahoma City.

Discussion opened by DR. W. W. WELLS, Oklahoma City.

Discussion continued by DR. F. L. CARSON, Shawnee.

12. *"Some Experiences in Breast Feeding"*—DR. G. GARABEDIAN, Tulsa.

Discussion opened by DR. K. C. REESE, Tulsa.

Discussion continued by DR. J. G. EDWARDS, Okmulgee.

13. "*The Care of Cripple Children in Oklahoma*"—DR. EARL D. McBRIDE, Oklahoma City.
Discussion opened by DR. ANDREW COWLES, Ardmore.
Discussion continued by DR. E. B. DUNLAP, Lawton.
14. "*Lowering the Maternal and Infant Mortality Rates*"—DR. LUCILE S. BLACHLY, Oklahoma City.
Discussion opened by DR. W. A. DEAN, Tulsa.
Discussion continued by DR. R. D. WILLIAMS, Idabel.
15. "*Diphtheria*"—DR. CHAS. W. FISK, Kingfisher.
Discussion opened by DR. H. E. BREESE, Henryetta.
Discussion continued by DR. C. E. BRADLEY, Tulsa.
16. "*Scarlet Fever; Report of Fatal Case, Complicated by Appendicitis*"—DR. R. K. PEMBERTON, McAlester.
Discussion opened by DR. H. M. WILLIAMS, Oklahoma City.
Discussion continued by DR. A. W. NUNNERY, Chickasha.

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GENERAL MEDICINE, NEUROLOGY, PATHOLOGY AND BACTERIOLOGY.

CLAUDE T. HENDERSHOT, M.D., Chairman, 203 Opheum Bldg., Tulsa.
BASIL A. HAYES, M.D., Secretary, 706 Medical Arts Bldg., Oklahoma City.

Chairman's Address—

1. "*The General Practitioner, Past, Present and Future*"—CLAUDE T. HENDERSHOT, M.D., Tulsa.
2. "*Constipation*" — CHARLES DALLAS BLACHLY, M.D., Oklahoma City.
Discussion opened by O. S. SOMERVILLE, M.D., Bartlesville.
3. "*Chronic Villous Type of Arthritis Deformans*"—SAMUEL GOODMAN, M.D., Tulsa.
Discussion opened by C. J. FISHMAN, M.D., Oklahoma City.
4. "*Methods of Testing Hay Fever and Asthma Patients for Protein Sensitivity*" (*Illustrated with charts*)—RAY M. BALYEAT, M.D., Oklahoma City.
Discussion to be general.

5. "*Physio-Therapeutic Treatment of Hay Fever*"—G. W. EDGERTON, M.D., Hugo.
Discussion opened by HOWARD S. BROWNE, M.D., Ponca City.
6. "*Further Observations on the Use of Mercurochrome in Tuberculosis*"—BASIL A. HAYES, M.D., Oklahoma City.
Discussion opened by HORACE T. PRICE, M.D., Tulsa.
7. "*Need for Professional Support of Health Work*"—CARL PUCKETT, M.D., Oklahoma City, State Health Commissioner.
Discussion opened by R. C. SULLIVAN, M.D., Superintendent County Board of Health, Ardmore.
8. "*The Irritable Heart and Its Probable Cause*"—C. C. CONOVER, M.D., Kansas City, Missouri.
Discussion opened by LEA A. RIELY, M.D., Oklahoma City.
9. "*A Few Remarks on Cardiac Diseases*"—J. B. CLARK, M.D., Coalgate.
Discussion opened by J. S. FULTON, M.D., Atoka.
10. "*Diseases of the Heart and Blood Vessels*"—O. W. RICE, M.D., McAlester.
Discussion opened by T. H. MCCARLEY, M.D., McAlester.
11. "*Cardiac Diseases of Children*"—M. L. LEWIS, M.D., Ada.
Discussion opened by C. E. BRADLEY, M.D., Tulsa.
12. "*Physio-Therapy in General Medicine*" (*Illustrated by lantern slides*)—E. MARGO, M.D., Oklahoma City.
Discussion opened by T. J. DODSON, M.D., Norman.
13. "*Endocrine Obesity*"—HENRY H. TURNER, M.D., Oklahoma City.
Discussion opened by BEN H. COOLEY, M.D., Norman.
14. "*Hypertension*"—C. E. SEXTON, M.D., Stillwater.
Discussion opened by S. W. REYNOLDS, M.D., Drumwright.
15. "*Care of Pregnancy by the General Man*"—WALTER A. HOWARD, M.D., Chelsea.
Discussion opened by R. M. ANDERSON, M.D., Shawnee.

16. "*High Blood Pressure*"—O. C. STANDIFER, M.D., Elk City.

Discussion opened by LEONARD WILLIAMS, M.D., Pawhuska.

SYMPOSIUM.

Constitutional Diseases vs. Dental Diseases

17. a. "*Systemic Manifestations of Focal Infections With Special Reference to Those of Dental Origin*"—WANN LANGSTON, M.D., Oklahoma City.

- b. "*Dental Diseases As They Relate to Constitutional Diseases*"—F. J. REICHMAN, D.D.S., Oklahoma City.

- c. "*Focal Infections of the Nasal Sinuses*"—J. C. BRASWELL, M.D., Tulsa.

- d. "*End Results of Operative Procedures in Focal Infections*"—IRA McCARTY, D.D.S., Tulsa.

(Case Reports).

Discussion opened by A. B. CHASE, M.D., Oklahoma City; W. J. BRYAN, M.D., Tulsa; J. C. McDONALD, M.D., Oklahoma City; R. C. DANIELS, D.D.S., Oklahoma City; GREEN K. DICKSON, D.D.S., Oklahoma City.

GENITO-URINARY, DERMATOLOGY AND RADIOLOGY.

DR. CHARLES J. WOODS, Chairman, 123 West 3d St., Tulsa.

DR. C. B. TAYLOR, Secretary, Medical Arts Bldg., Oklahoma City.

1. Chairman's Address—

"*The Relation of Dermatology to Diseases in General*"—C. J. WOODS, M.D., Tulsa.

2. "*Obscure Chest Conditions From An X-ray Standpoint*"—MORRIS B. LHEVINE, M.D., Tulsa.

Discussion—L. H. STUART, M.D., Tulsa.

3. "*Prurigo Nodularis*"—EVERETT S. LAIN, M.D., Oklahoma City.

Discussion—J. S. HOOPER, M.D., Tulsa.

4. "*The Etiology of Eczema*"—JAMES STEVENSON, M.D., Tulsa.

Discussion—A. L. STOCKS, M.D., Muskogee.

5. "*Review of Sodium Tetraiodo-phenolphthalein for Cholecystography*"—JOHN E. HEATLEY, M.D., Oklahoma City.

Discussion—S. D. NEELY, M.D., Muskogee.

6. "*Gentleness in Urology*"—REX BOLEND, M.D., Oklahoma City.

Discussion—E. L. COHENOUR, M.D., Tulsa.

7. "*Stricture of the Ureter*"—J. M. PEMBERTON, M.D., Okemah.

Discussion—J. W. ROGERS, M.D., Tulsa.

8. "*Pyelitis*"—E. S. SULLIVAN, M.D., Oklahoma City.

Discussion—MALCOLM McKELLAR, M.D., Tulsa.

9. "*Urologic Conditions in Children*"—HENRY S. BROWNE, M.D., Tulsa.

Discussion—C. M. POUNDERS, M.D., Oklahoma City.

10. "*Perineal Prostatectomy*"—BASIL A. HAYES, M.D., Oklahoma City.

Discussion—C. B. TAYLOR, M.D., Oklahoma City.

11. "*Unusual Conditions Found in Kidney, Ureter and Bladder*" (Lantern slides)—W. J. WALLACE, M.D., and S. F. WILDMAN, M.D., Oklahoma City.

Discussion—J. HOY SANFORD, M.D., St. Louis; JULIUS FRISCHER, M.D., Kansas City, Mo.

SURGERY AND GYNECOLOGY

DR. F. A. HUDSON, Chairman, Enid.

DR. A. W. PIGFORD, Secretary, Palace Bldg., Tulsa.

Chairman's Address—

"*Duodenal Arteriomeseenteric Ileus*"—DR. F. A. HUDSON, Enid.

RIGHT ABDOMINAL PAIN.

1. "*Gall Bladder*"—DR. McLAIN ROGERS, Clinton.

Discussion—DR. R. V. SMITH, Tulsa.

2. "*Kidney*"—DR. R. M. HOWARD, Oklahoma City.

Discussion—DR. CURT VON WEDEL, Oklahoma City.

3. "*Appendicitis*"—DR. W. H. LIVERMORE, Chickasha.

Discussion—DR. R. MCGILL, Tulsa and DR. JOHN RILEY, Oklahoma City.

4. "*Ileus-Partial and Complete*"—DR. PAUL CHAMPLIN, Enid.

Discussion—DR. S. N. MAYBERRY, Enid.

5. "*Extra Peritoneal*"—DR. LEROY D. LONG, Oklahoma City.
Discussion—DR. JOHN W. RILEY, Oklahoma City.
 6. "*Central Nervous System*"—DR. ANTONIO YOUNG, Oklahoma City.
Discussion—DR. LEA A. RIELY, Oklahoma City.
 7. "*Referred Pain of the Thoracic Origin*"—DR. L. J. STARRY, Oklahoma City.
Discussion—DR. W. M. TAYLOR, Oklahoma City.
 8. "*Tuberculous Peritonitis*"—DR. R. MCGILL, Tulsa.
Discussion—DR. V. K. ALLEN, Tulsa.
 9. "*Hernia*"—DR. WILLIAM P. FITE, Muskogee.
Discussion—DR. F. Y. CRONK and DR. H. E. MURDOCK, Tulsa.
 10. "*Ptosis*"—DR. A. B. SMALL, Dallas, Texas.
Discussion—DR. A. L. BLESCH, Oklahoma City.
 11. DUODENAL ULCER.
 - a. "*Etiology, Indications for, and Comparison of Results of Medical and Surgical Treatment*"—DR. H. G. WALCOTT, Dallas, Texas.
 - b. "*Surgical Treatment*"—DR. HORACE REED, Oklahoma City.
Discussion—DR. I. B. OLDHAM, Muskogee.
 - c. "*Medical Treatment*"—DR. W. J. BRYAN, Tulsa.
Discussion on Etiology opened by DR. L. A. TURLEY, Norman.
 12. "*Tubo-Ovarian*"—DR. J. M. BYRUM, Shawnee.
Discussion—DR. A. W. PIGFORD, Tulsa.
 13. "*Differential Diagnosis*"—DR. G. A. WALL, Tulsa.
 14. "*Fractures About the Elbow*"—DR. I. N. TUCKER, Tulsa.
 15. "*Fractures of the Skull*"—DR. A. RAY WILEY, Tulsa.
Discussion—DR. W. G. LEMMON, Tulsa.
 16. "*Arthroplasty of the Hip With Motion Pictures*"—DR. WILLIS C. CAMPBELL, Memphis, Tenn.
 17. "*Fractures of the Femur*"—DR. H. D. MURDOCK, Tulsa.
Discussion—DR. W. H. SISLER, Tulsa.
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- EYE, EAR, NOSE AND THROAT
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- DR. J. WALTER BEYER, Chairman, Palace Bldg, Tulsa.
 - DR. L. A. NEWTON, Secretary, Medical Arts Bldg., Oklahoma City.
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1. Chairman's Address—DR. J. WALTER BEYER, Tulsa.
 2. "*Muscle Tucking for Strabismus*"—DR. WALTER A. HUBER, Tulsa.
Discussion opened by DR. DOLPH D. MCHENRY, Oklahoma City.
 3. "*Importance of Removal of Tonsils in Early Life*"—DR. T. W. STALLINGS, Tulsa.
Discussion opened by DR. J. C. MACDONALD, Oklahoma City.
 4. "*Plastics of External Nose*"—DR. CURT VON WEDEL, Oklahoma City.
Discussion opened by
 5. "*Some Features of Glaucoma Important to the General Practitioner*"—DR. JOHN O. McREYNOLDS, Dallas, Texas.
 6. "*Some Recent Studies in Lateral Sinus Thrombosis*"—DR. H. C. TODD, Oklahoma City.
 7. "*Bronchoscopy*"—DR. A. L. GUTHRIE, Oklahoma City.
Discussion opened by DR. R. N. SMITH, Tulsa.
 8. "*Inflammatory Diseases of Conjunctiva*"—DR. M. K. THOMPSON, Muskogee.
Discussion opened by DR. A. W. ROTH, Tulsa.
 9. "*X-ray Studies of Accessory Sinuses of the Nose*"—DR. E. C. WILSON, Oklahoma City.
Discussion opened by DR. A. L. GUTHRIE, Oklahoma City.

BUREAU OF MATERNITY AND INFANCY

STATE DEPARTMENT OF PUBLIC HEALTH OF OKLAHOMA

LUCILE SPIRE BLACHLY, Director

"SUMMER ROUND-UP OF CHILDREN."

This is a nation-wide movement, sponsored by the National Congress of Parents and Teachers, for the purpose of stimulating community interest and cooperation in sending to school September 1, 1926, first grade children as free as possible from physical defects.

The President of this Association is Mrs. A. H. Reeves, 5517 Germantown Avenue, Philadelphia, Pennsylvania. Complete information may be had by writing her.

Briefly, however, the "Round-up" takes on the form of a nation-wide contest between Parent-Teacher Associations, the enrolling of the children, their first examinations, the correction of the remedial defects and the second examination to be carried on according to certain rules with prizes of \$150.00, \$125.00, \$100.00, \$75.00 and \$50.00 given at the close of the contest. The prizes will be given by the Delineator.

According to these plans, registration, the distribution of material and the organization of the campaign were to have taken place in March and April; the first physical examination of children made in May, the remedial defects remedied in June, July and August, and the second physical examination of the children and the second report made in September. In order to compete for the prizes the second report must be accompanied by a letter narrating the plan used to get the results secured. The prizes are to be based upon the percentage of remedied defects and upon the method used,—not on the form or style of the written narrative.

Every branch Parent-Teacher Association competing must first register with its State President.

Physical Examination Forms are furnished if requested by the National Congress of Parents and Teachers but each state having blanks of its own is advised to use them.

Following is the data requested at the final examination—approximately the same as the first:

CHILD'S NAME	ADDRESS	TELEPHONE
SCHOOL GRADE		
Date of Birth.	Reached average weight	
Age: Years, Months.	Date.	
Date of First Weighing.	Height.	
Height.	Weight.	
Weight.	Average Weight.	
Average Weight.	Number of weeks under	
Underweight: Pounds	observation.	
per cent.	Gain in Height: Actual.	
	Gain in Weight: Actual.	
	Lines under eyes.	
INSPECTION: Alert—	Posture: Erect—fatigue.	
dull—apathetic.		
MUSCLES: Firm—	Vaccination: Present	
flabby.	—absent.	
SKIN: Smooth—rough	Pediculi.	
—clear—scars.	Motions.	
HEAD: Normal.	Vision.	
EYES: Pupils.		
Inflammation.		

Mouth: Normal—open.	Mucous membrane:	
	Normal—pale.	
TEETH: Good—number	Approximation:	
—caries.	Good—poor.	
NOSTRILS: Clear—	TONGUE: Normal—	
crusted—mucous	moist—dry coated.	
—discharge.		
THROAT: Normal—	TONSILS: Normal—	
congested—gran-	large—inflamed	
ular—mucous.	absent.	
ADENOIDS: Present—	GLANDS: Normal—	
absent.	enlarged.	
THYROID: Enlarged.		
EARS: Right drum: Normal—dull—perforation—		
discharge.		
Left drum: Normal—dull—perforation—dis-		
charge.		
HEART: Normal.		
LUNGS: Normal.		
ABDOMEN: Normal—large—distended—tympanic		
—tender—hernia.		
GENITALS: Normal. Prepuce: Long—adherent—		
circumcised.		
EXTREMITIES: Toes: abnormal—in—out.		
SPINE: Normal—rigid—round shoulders.		
CHEST: Normal—barrel flat—funnel—pigeon—		
flaring ribs.		
FEET: Arches: Good—flat.		
GENERAL CONDITION: Good—fair—poor.		
RECOMMENDATIONS: Remarks:		
EXAMINED BY	RECORDED BY	DATE.

Since the National Congress of Parents and Teachers was unable to get the detailed information to the various states before the first of May, only a few branch organizations have planned to compete for the prizes. This, however, should not discourage any Parent-Teacher Association from carrying out the essential activities of the campaign, i. e., the preparation of prospective school children for school life.

We are advised by our State Superintendent of Public Instruction that approximately 100,000 children will enter school in Oklahoma for the first time in September, 1926.

Joy Elmer Morgan, Editor, National Education Journal, says: "More than a million school children fail to make their grades each year in the American schools.

Much of this loss is due to bad habits formed during the first school years. Poor physical condition is the father of a whole flock of habits and attitudes which interfere with school work. It spells inattention, lack of effort, antagonism toward teachers and fellow pupils. It often arouses in the child a sense of inferiority which makes it impossible for him to do his best."

The Bureau of Maternity and Infancy will furnish to any Parent-Teacher Association desiring them the necessary survey blanks, physical examination forms, tongue depressors, pre-school feeding charts and other literature necessary for the conduct of these child health conferences.

The Director of the Bureau of Maternity and Infancy respectfully requests every physician making an examination of a pre-school child to ask himself this question before making his recommendations to the parents. "If this were my own child what advice would I give?"

	Total Beds	Av. Beds in Use
Sapulpa, 14,207—Creek		
Employees' Hospital	28	10
Sentinel, 896—Washita		
Sentinel Hospital	12	7
Shattuck, 1,365—Ellis		
The Shattuck Hospital	18	10
Shawnee, 16,976—Pottawatomie		
Shawnee City Hospital	70	40
Stillwater, 4,701—Payne		
Stillwater Hospital	20	15
Sulphur, 3,684—Murray		
Williamson Hospital-Clinic	30	15
Thomas, 1,223—Custer		
The Thomas Hospital	20	10
Tulsa, 124,478—Tulsa		
Flower Hospital, Inc.	25	New
Grandview Hospital	55	17
Maurice Willows Hospital	25	13
Morningside Hospital	75	40
Oklahoma Hospital	52	30
Physicians and Surgeons Hosp.	30	26
Watonga, 1,678—Blaine		
Watonga Hospital	15	3
Woodward, 3,849—Woodward		
Woodward General Hospital	25	10
Yale, 2,601—Payne		
Marble Dale Hospital	14	3
Six General Hospitals of less than 10 beds	37	19

Total for community use, 83 ... 3,041 1,592

In Oklahoma the following thirty-six counties have no hospitals for community use: Adair, Atoka, Beaver, Cherokee, Cimarron, Cleveland, Coal, Cotton, Craig, Delaware, Dewey, Grant, Harmon, Harper, Hughes, Jefferson Johnston, Latimer, LeFlore, Love, McClain, McCurtain, McIntosh, Major, Marshall, Mayes, Noble, Nowata, Okfuskee, Pawnee, Pushmataha, Roger Mills, Rogers, Seminole, Sequoyah, Texas.

BOOK REVIEWS

FACTS ON THE HEART. By Richard C. Cabot, M. D., Professor of Medicine and Social Ethics, Harvard University. Octavo of 781 pages with 163 illustrations, Philadelphia and London: W. B. Saunders Company, 1926. Cloth, \$7.50 net.

A book which is all the author intended it to be in that it "differs from all those previously written on heart disease in basing its conclusions wholly on the study of cases which came in the end to necropsy." It is distinctly unique and a most pleasing departure from anything else on the subject and aptly bears its title "Facts on the Heart." The necropsy records of 1906 cardiac cases have been studied and grouped as to their anatomical diagnoses and the clinical records presented and correlated. The book is invaluable from a statistical standpoint and presents some surprises for most clinicians especially in the small number of cases of (to use the author's term) "that great rarity—Mitral Regurgitation", and also myocarditis.

After a preliminary chapter on the general aspects and frequency of the various types of heart disease, subsequent chapters deal successively with Rheumatic Heart Disease, Syphilitic Heart Disease, Hypertensive Heart Disease, Myocarditis, Angina Pectoris, Acute and Subacute Endocarditis, Chronic Non-deforming Valvular Sclerosis or Endocarditis, Acute Pericarditis, Chronic Pericarditis, Thyro-cardiac Disease, and Congenital Heart Disease with the final pages of the book devoted to a summary of the whole work. To the more frequent and important diseases, ample space is given and hundreds of

case records are used to illustrate the pitfalls and inaccuracies of modern diagnosis. Although the author cautions his readers that few people should try to read the whole book, the reviewer feels that most diagnosticians can ill afford not to read it all for the wealth of material that it contains is not presented by any other work on the subject.

The book is amply illustrated and well arranged and the index excellent.

R. A. Wolford.

AUTHORIZED SCARLET FEVER PRODUCTS FOR THE DIAGNOSIS, PREVENTION AND TREATMENT OF SCARLET FEVER

The demonstration in 1923 by Drs. F. and Gladys H. Dick of the Memorial Institute of Chicago of the cause of scarlet fever by means of human inoculation experiments, and the discovery by them of the specific toxin of the disease and corresponding antitoxin, laid the scientific foundation for the development of a specific, potent and standardized scarlet fever antitoxin.

The antitoxin developed by the Dicks was obtained by immunizing horses with sterile scarlet fever toxin, and the antitoxic serum from these horses was concentrated not only to increase its potency but to avoid or reduce the frequency of serum reactions.

Since the announcement of the discovery by the Dicks of scarlet fever antitoxin sufficient time has elapsed to have given it a thorough trial, not only for passive immunity but also for the treatment of scarlet fever.

It has been found that the administration of a properly prepared and standardized, concentrated scarlet fever antitoxin, in cases of severe or moderately severe scarlet fever, blanches the rash, lowers the temperature, improves the general condition, and, when given early, greatly diminishes the incidence of complications and sequelae. Used prophylactically in adequate doses, the antitoxin prevents the development of scarlet fever in susceptible persons, even after infection has occurred.

The most striking results following the administration of the antitoxin are obtained in those cases to whom the antitoxin is administered within the first three days of illness or, in other words, when the rash of scarlet fever is appearing. The intravenous administration of adequate doses of scarlet fever antitoxin to such patients is frequently followed by a fall of the temperature to normal in less than 24 hours, and a marked diminution if not a complete disappearance of the rash.

The patents granted to Drs. George F. and Gladys H. Dick have been assigned by them to the Scarlet Fever Committee of Chicago for administration, and the Scarlet Fever Committee Inc., has granted the first license to E. R. Squibb & Sons for the manufacture and sale of authorized scarlet fever products. Prepared under the Dick patents, these authorized scarlet fever products consist of scarlet fever antitoxin, both therapeutic and prophylactic; scarlet fever toxin for the Dick test to determine susceptibility to scarlet fever; scarlet fever toxin for active immunization against scarlet fever, and scarlet fever antitoxin to be used in the diagnostic blanching test.

It is to be noted that the Council on Pharmacy and Chemistry of the American Medical Association

tion has accepted all of the authorized scarlet fever products put out by Squibb & Sons, and that the Squibb Scarlet Fever Toxin, both for the Dick test and for active immunization, are the first, and so far, the only scarlet fever toxins accepted by the Council on Pharmacy and Chemistry of the American Medical Association. It would be well to note the strict control under which the Squibb Authorized Scarlet Fever Products are prepared. The Squibb products are prepared and thoroughly controlled by (1) the controls and tests made in the Squibb biological laboratories; (2) under government regulations samples of each and every lot of scarlet fever toxin and antitoxin are required to be submitted to the hygienic laboratory for test and approval and (3) samples of each and every lot of scarlet fever toxin and antitoxin prepared under the Dick patents are required to be submitted to the Scarlet Fever Committee Inc., for laboratory tests and clinical trial before any of that particular lot is placed upon the market.

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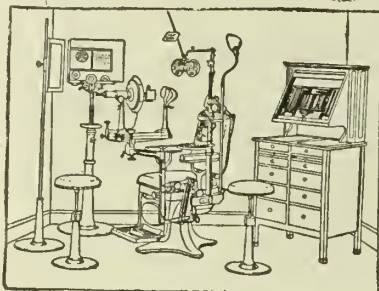
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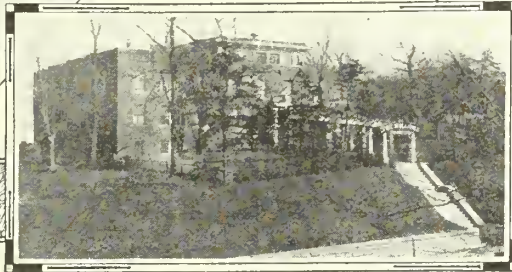
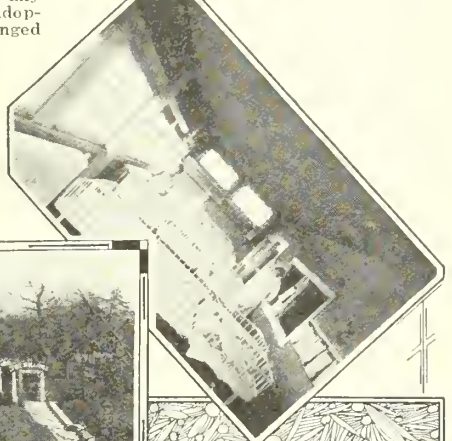
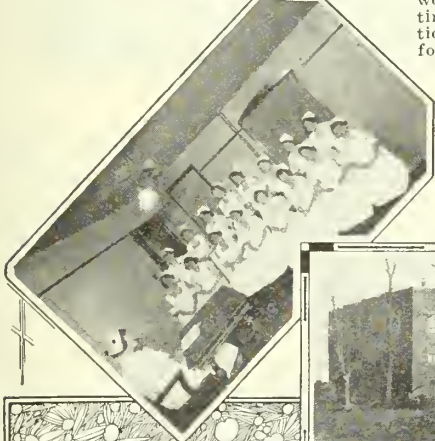
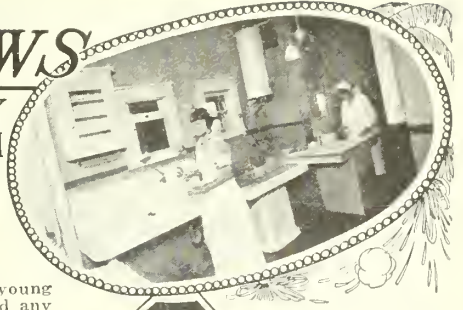
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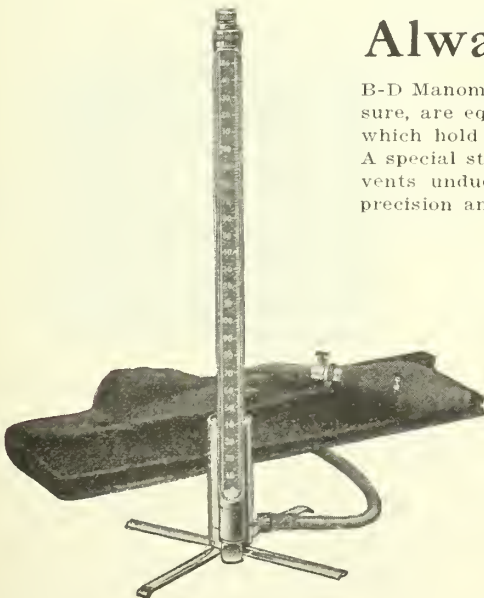
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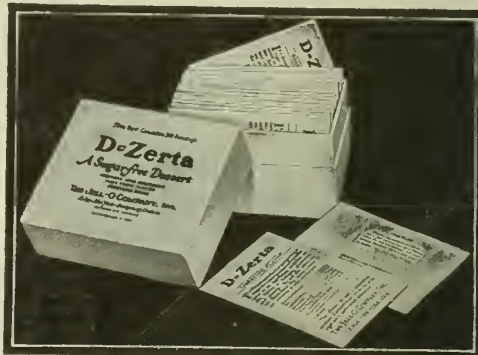
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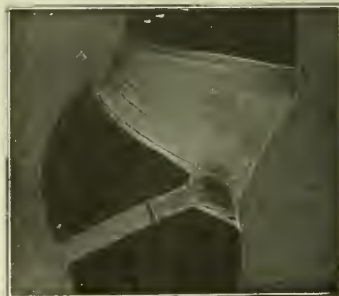
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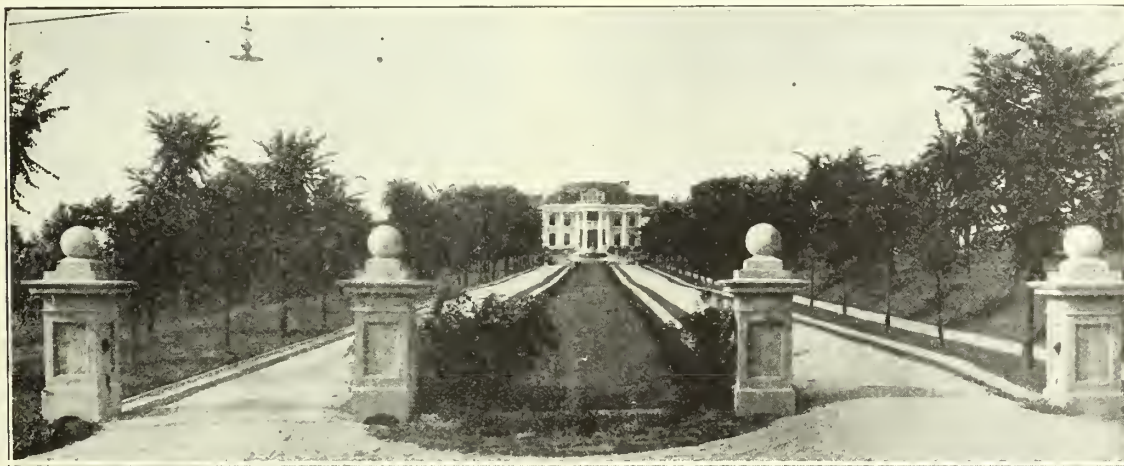
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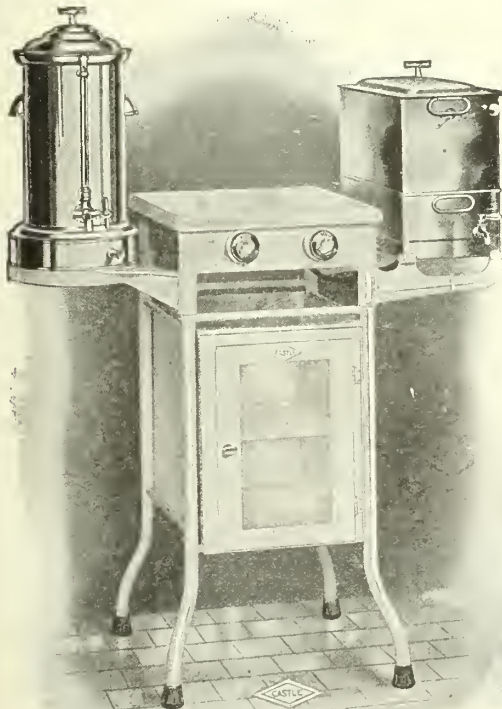
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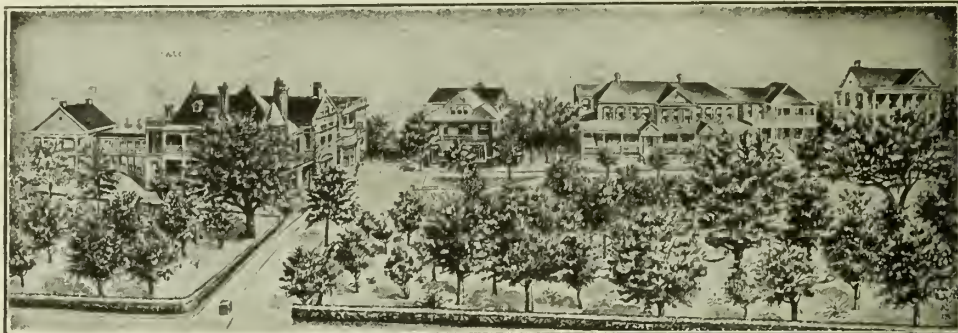
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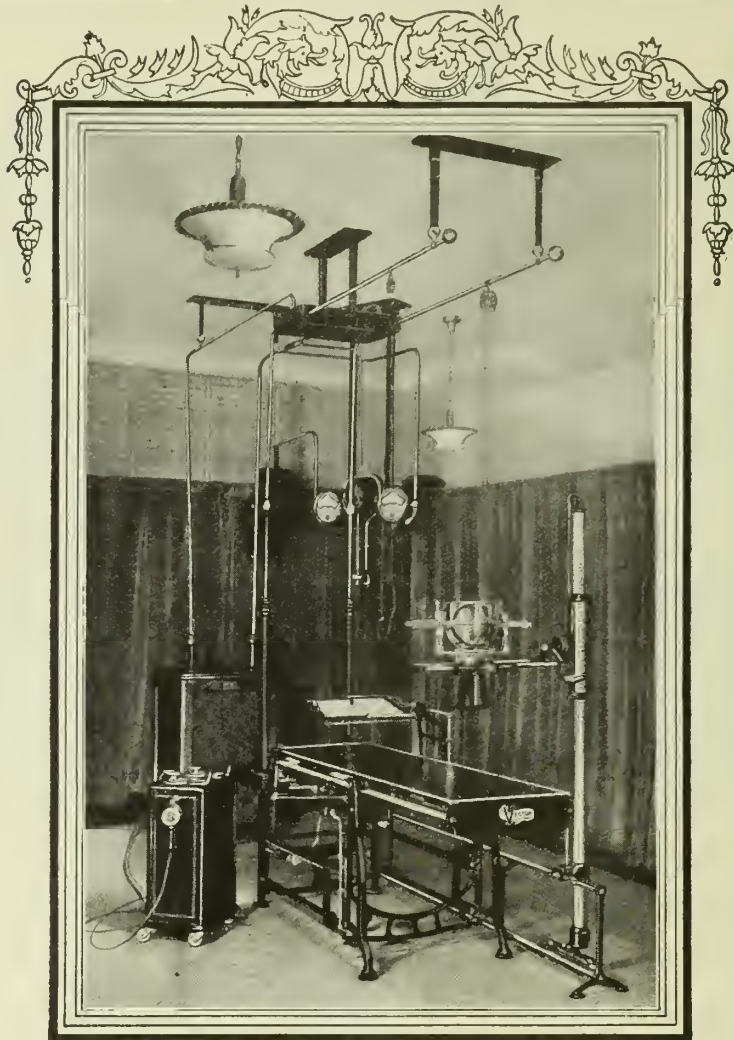
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2	3 to 4	7
3	4 to 5	7
4	5 to 6	6
5	5 to 7	5
6 to 9	6 to 8	5
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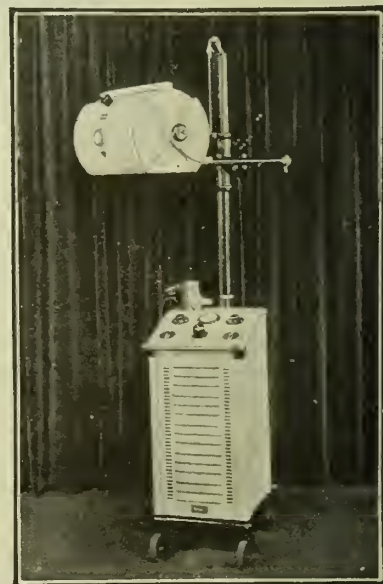
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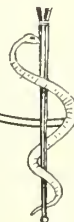
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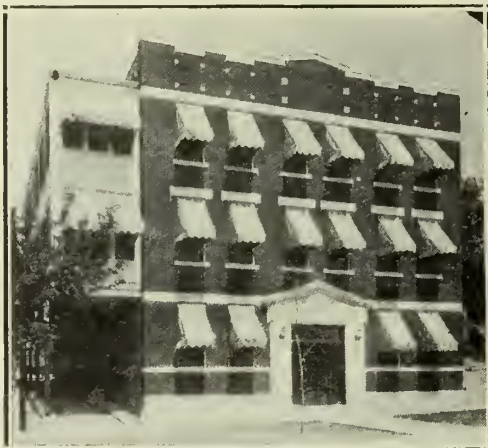
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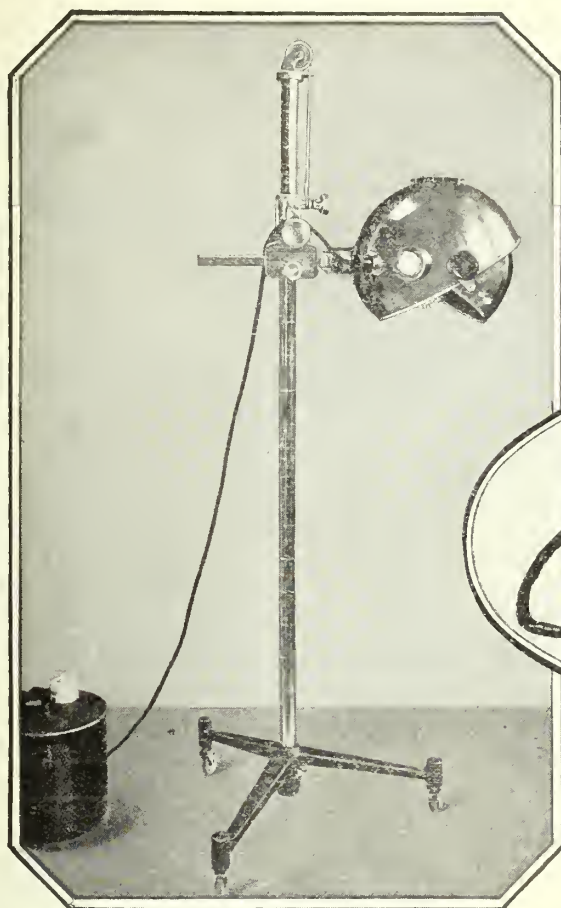
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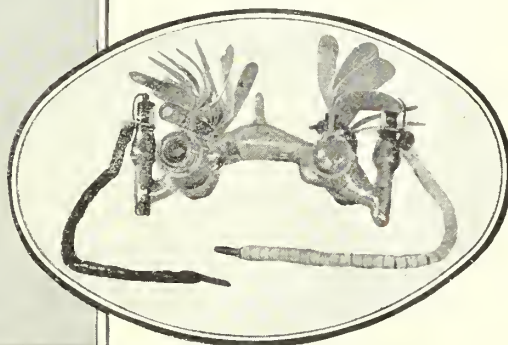
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VOLUME XIX

MUSKOGEE, OKLA., JULY, 1926

NUMBER 7

MEDICAL COOPERATION*

ARTHUR S. RISSE, A. B., M. D., F. A. C. S.
BLACKWELL

President, Oklahoma State Medical Association.

Mr. President, members of the Oklahoma State Medical Association, friends—and I count you all as friends.

My sense of the honor conferred upon me in electing me as President, is equalled only by the feeling of my own unworthiness, and by the weight of the burden of responsibility inherent in that office. In the words of Solomon: I fear that I know not "how to go out or to come in" before this so great a people of the medical profession of Oklahoma.

The officers of any organization have one duty—and only one—to perform the work of their office as faithfully and efficiently as possible. They may have other desires, namely, to sidestep those duties; they may prefer to enjoy the honors and rewards of office without assuming the responsibilities or bearing the burdens or making the sacrifices demanded of every efficient and faithful servant. It is my desire, since you have elected me to this high office, to perform its duties as well as possible for a man of naturally timid and retiring disposition.

Like the officers of organizations, words have two uses, either to express ideas, thoughts, ideals and purposes; or to conceal them. It is my desire tonight to employ words only for the purpose of expressing my ideas as plainly and frankly as possible. I am not so much concerned with the mere making of a speech—would that my personality might be forgotten in the message I hope to bring. It is my intention rather to utilize this privilege to say things which in my humble opinion ought to be said, and perhaps acted upon. Personally, I have nothing to lose by any

frankness of expression, unless it be the approval of some few who have not yet thought out, and become awakened to the highest possibilities of service of our profession.

There is nothing to gain for me personally because what I say here will not win me any patients or financial rewards. Also there is no further office to which I can aspire, for in your generosity, (which often seems to me misplaced,) you have already given me the highest office in the gift of the profession of the State.

I stand before you tonight as the representative of a great and honored and honorable profession. I address you only as a spokesman for the doctors of the state, and I should like to believe, and I should like you to believe, that the message I hope to bring would be reiterated and corroborated by every regular practitioner if he were given the occasion and the opportunity.

Medical cooperation, like charity, begins "at home." It must begin there if the fruit of individual endeavor is to be worthy of the vine. Professional team work must have its inception and foundation in the individual physician. Advancement in medical science has been so rapid, the difficulty of keeping pace with its progress is so great and the demands upon us so large, that if the physician is to accomplish any adequate results—aside from merely earning a livelihood—it is necessary for all of him to be "on the job" all the time. Dilettantism in medicine is detrimental to individual initiative—it is destructive to professional efficiency and cooperation, it minimizes the sum total of the accomplishments of the profession as a whole. So it is well for us medical men individually and collectively to take stock of our obligations and resources as a profession. We need to recall to our distracted minds the ancient and honorable lineage of our professional forefathers. From a study of their sacrificing—and so satisfying—lives and accomplishments we may gain a new vision of the funda-

* Read before the General Session, Annual Meeting, Oklahoma State Medical Association, Oklahoma City, June 22, 1926.

mental ideals of our profession. Thus may we gain a broader understanding and a larger spirit of consecration for the work that lies before us, waiting to be done. To do that work we must cooperate. But before there can be team work between individuals there must be team work in each individual member of our profession. In other words—every man must be a unit in his work. His unity of interest will determine the character of his work as a physician, it will measure his fitness as a member of the profession, and his standing in the eyes of the community.

For this is true: the individual physician stands as the unit, the representative of our body politic of medicine. The individual physician is so held accountable by the laity today. Our profession is judged, not by the great pioneers and discoverers in medicine and surgery—either living or dead—not by Hippocrates or Galen, or Harvey or Jenner, Paget, Koch, Lister or Pasteur; not by our own beloved Holmes or McDowell, not by Reed or Carroll, Lazear or Agramonte, not by McClintic or the Mayos or Senn or Murphy, and History in all its pages holds no finer records of heroism, of service rendered to mankind and the cause of civilization, than the records of these heroes of the peaceful art of medicine. Our profession is measured by the rank and file, by the average doctors of the community. The standard of service rendered by the physicians of each community will determine the estimation in which the profession is held—and the attitude of the people toward the doctors and their ideals. By every means available we should seek to grow and to develop to the highest our skill in the amelioration of human suffering.

In addition to our duty of adding to and increasing our own personal efficiency we ought to be more active as a profession in furthering the interests of organized medicine, in public health measures, in school hygiene, in the sanitary problems of the community, in the proper conduct of our public institutions which have to do with the care of the sick and disabled and mentally deficient. The return of sick and crippled individuals to a life of usefulness is not only a financial saving but a moral duty of the State, and our knowledge in matters of health places upon us doctors a special responsibility.

For example, our soldier sick are worthy of the best which modern medicine and surgery have to offer, and it is our duty to see that no effort is spared, no facility withheld which will make for the comfort and rehabilitation of these men. The medical officers in charge should be the best.

Only too often in the past, high medical offices have been distributed as the pawn of party politicians. Such offices, however, are no legitimate part of the spoils system. They should not be the plaything of politics devoted to petty political expediency. It is time our State Medical Association stepped into long trousers, and into fullgrown activity. Public Health matters should be delegated to those best fitted to serve the public welfare, not devoted to political ends and political expediency.

Our State Association should prove itself worthy of a voice in the selection of public medical officers. Then after their election we need to give them our support and commendation for services rendered. To this end we should be less interested in politics both within and without the profession and more interested in policies of conduct, in principles of procedure, in high standards of public service. We need to chose as our representatives and State officers of medicine, men of standing, men of sobriety and unquestioned probity; men of vision and ideals of service. We are fortunate indeed in the personnell of our Medical Examining Board, in our State Commissioner of Health, in the Dean and the officers of our State Medical School. With only indifferent public support, hindered in many ways by political restrictions and lack of funds, they are yet doing great things in a medical way for the people of our state. They deserve our cordial commendation. We need to exercise every legitimate effort to secure for them greater freedom of action, larger powers for the promotion of public health and the health education of the people. Only by such active and open support can our State Association exercise the influence which we ought to exercise in matters of public health. Only so can we win the approval of the people. Only so can we take the place which we ought to occupy on a plane with the other State Medical Associations.

The physicians of Oklahoma possess at least average intelligence, we have men of

education and ability, of excellent training, men who are efficient in their profession, who are progressive, who compare favorably in their attainments, in medical *acumen* and surgical skill with the physicians of other states. It remains only for us to utilize to the full the possibilities for advancement inherent in our State Association. I take it that the purpose of medical organization is not the development of surpassing excellence in a few men and their exploitation, (though there must always be leaders to blaze the trail) but the building up of the individual physician, the raising of the standard of service of the average man—thus to make the blessings of our healing available to all our people.

So, while the fellowship and the relaxation to be enjoyed at our Annual Meetings are desirable, their chief value lies in the fact that here we may meet on common ground for the exchange of views, for gathering information. Here we may learn from the experience of others better methods of work for our professional advancement. Our Annual meetings with their clinics and scientific programs should be designed to give us real postgraduate work, with which, by the way, business meetings should not interfere too much. To that end it might be of advantage occasionally to have outstanding men from a distance bring us the benefit of their experience in special lines of work. To that end also it would seem that we should hold our meetings only where sufficient clinical material is available, and where the members of the profession are cooperating for the best interests of the State Association as a whole. The Kansas City Clinical Festival is a step in the right direction. Always our slogan should be: "the greatest good to the greatest number." In my humble judgment we have come to the place when we ought to consider the establishment of a permanent Home for our State Association and a Library which ought to be made available to all the members throughout the state. We might have a joint library with the State Medical School. We need to keep in close touch with our State Medical School and the work which its officers are doing so efficiently. Our members throughout the state will do well to avail themselves of the advantages which the Extension Department of the University is offering in the way of Postgraduate Medical courses.

All of these activities could be more perfectly coordinated and developed, perhaps, if the Association would employ full time officers as Secretary and Editor. It seems unfair for us to expect one man to do the work which ought to be done and which could be done for the advancement of Oklahoma physicians, for the elevation of our State Association to the ranks of the other State Associations. So, while giving credit for work well done, let us not permit the good to be the enemy of the best. Let us be willing to learn from the experience of other State Associations. Let us strive to make Oklahoma physicians and the Oklahoma State Medical Association serve the highest health interests of the people.

It is increasingly true that in our profession no man liveth unto himself. While our work is largely individualistic in the sense of intimate personal relations between patient and physician, our highest efficiency is attained only through cooperation and mutual understanding and friendly relations between *all* physicians. The attitude of the public toward us, and the opinion of us held by the laity, depend largely on our attitude and opinion of each other as expressed to, or in the hearing of the laity. We will not be held in respect and honor by the public unless we hold ourselves and our professional brethren in honor. Harsh criticism, faultfinding, backbiting have no legitimate place in the armamentarium of the ethical physician. They are beneath his dignity, they are detrimental to his work, they are destructive to his influence for good in the health-education of the public.

Only too often have the indiscreet expression of opinions and professional criticisms been one of the factors, if not the foundation of damage suits against physicians. Speaking of mal-practice suits leads me to remark in passing, that, they all too frequent and most of them seem to be brought on all too trivial grounds. They are filed in the main, by poor pay patients, often as a counter claim to contest payment for professional services, by those of little standing socially or financially, who have nothing to lose and all to gain, on the pernicious "contingent fee" basis, and it is admitted by physicians, at least, that as a rule such suits are instituted and pressed by lawyers not of the highest standing and principles nor by those of the largest experience or highest

social consciousness. On the other hand it is the legal men of repute and standing who contest such suits—as is right and proper.

The lawyers need to be educated—I say it with all respect due the legal gentlemen—the lawyers need to be educated to the inequity and the futility of malpractice suits. Suppose, for example, lawyers were sued by former clients for losing cases, or for failing to win for their clients the highest verdict possible. The legal gentlemen would say that the idea is preposterous and presumptuous, but our cases are parallel, and it would be as sensible and sometimes, perhaps, as just—to secure judgment against attorneys for losing cases as against physicians. It is true that malpractice suits are a compliment to our profession—a tribute to our usual accomplishment in the amelioration of human conditions. The very avidity with which any suggestion of slander or scandal or news of damage suit cases is rolled under the public tongue is a compliment and a significant commentary on our high standing in the community. We are placed as it were upon a pedestal in the public mind—and there are ever present those iconoclasts who love to shout from the house top and the market places; “how are the mighty fallen.” We need to inform the legal profession and the public and the editors of our newspapers that there are factors and conditions, in human ills, mechanical, chemical, physiological, pathological, hygienic, even social and temperamental, which may complicate the results of diseases, defects and accidents, and over which we physicians, with all our skill and remarkable power of achieving health, may not be able to obtain adequate or complete control.

People generally and the lawyers, however otherwise intelligent, do not understand the difficulties in diagnosis and treatment of disease and the results of accidents and physical defects. Also the laws and ordinances which bind us have been too much framed by lawyers and politicians without our help—or hindrance. We have too often stood aloof from political or legislative activities. We have remained perhaps too consistently on the “firing line”, fighting disease and death as individuals and have paid all too little attention to the legal and social aspects of our professional activities. We have failed in organized effort for the adequate en-

lightenment of the public as to professional aim and effort. We have failed in some sense to recognize the need of incorporating our scientific knowledge into just and adequate laws for the promotion of public health and for the maintenance of equitable relations between physicians and the people whom they seek to serve—and save.

Hitherto it might be said in charity of legal promoters of mal-practice suits—“we wot that ye did it in ignorance”—but some day, (please God it may be soon), given a better understanding of our problems and our professional and scientific efforts for the amelioration of human conditions, lawyers will make very certain of adequate grounds before sponsoring malpractice suits, and with a really enlightened bar—for I firmly believe the bar is capable of enlightenment—the lawyers will be held amenable to the bar association for bringing unjust suits and filing fraudulent claims. When that day comes, the honorable profession of the law will have earned lasting credit for progressiveness and public service.

Meanwhile, we of the medical profession need to strive earnestly to be clear of any fault in this matter. We have very definite duties to perform. We need to guard more efficiently and conscientiously our “unruly member.” Let us refrain from harsh and indiscreet and unjust criticism of our colleagues—and we ought to have only colleagues, not “competitors”. Let us ever be found in cooperation, never in conflict with each other.

Let us strive individually and collectively to render to our patients and to the public the highest services of which we are capable. Whenever feasible, let us hold consultations with our colleagues—and in case of need let us demand and obtain the services of specialists. The best of modern means and methods is none too good to fulfill the responsibilities with which we are burdened. Let us take the people into our confidence—we may with profit to ourselves and benefit to them tell them the facts. We have nothing to hide. On the contrary, the services which our profession has rendered and is rendering are honorable, praiseworthy, and of incalculable benefit to humanity and civilization.

But with all our wonderful achievements in the science of medicine, let us explain to patients and public that we are only human, and not omnipotent in our

control over human frailties and the ravages of disease and accident, that we will sometimes fail in our ministrations, because of factors which are beyond all human control. Disease and death will sometimes win, however wisely and bravely and efficiently we fight, but let our patients, and the lawyers, and the public feel that we have fought a good fight, that we have kept the faith, that we have fought together, that we have rendered our utmost service, that we are dissatisfied with even a partial victory, that we are prostrated by failure and the loss of the battle. Then people will recognize the unselfishness and the vast service of our calling, will grant to us, the men of medicine and surgery, the meed of honor which is ours by right of achievement and might of influence. God speed the day when an enlightened people must acknowledge a united profession devoted to the service of humanity.

The doctors constitute a great constructive army. Our profession does not follow the flag. We make a highway for the flag. The United States army did not build the Panama Canal, the doctors did it by their victory over yellow fever and malaria. The story of their discovery of the cause of yellow fever and its conquest, is as thrilling as any story in the history of our nation. Its results for human welfare are as far reaching as those of any other battle-victory. Where armies carry the torch, and make havoc of humanity the doctors come to restore health and life. We strive to make good the ravages of war and war-like commerce. Ours is a great army of reconstruction and rehabilitation; we remedy defects, we bring health, life, happiness. We have made miasmal swamps of death to flourish as a green bay tree with the fruits of civilization. In cellar and in garret, in lowly hovel and in lordly palace, to rich and poor, to the humble and the elect, our ministrations have been extended, and God has vouchsafed us countless and ever-increasing victories over disease and premature death.

To the members of the laity I would say this: All the modern means for the diagnosis, prevention and treatment of disease are at your disposal. To name only a few:—The pathological laboratory with its many methods for the diagnosis of diseased conditions, the X-ray with its wonderful power to visualize the hidden

portions of the body, and to cure many otherwise incurable diseases; radium, that man-discovered but God-sent miracle-working metal; surgery with its marvelous ability to reconstruct and restore diseased and damaged organs and bodies; the various antitoxins; vaccines and serums, not forgetting insulin, (most of which have been perfected through experiments on animals) which have proved preventative and curative of many diseases which have hitherto ravaged the human family. All these are available at your need. Their value is established beyond question of scientific proof.

And yet we doctors mourn over the fact that every year in this enlightened and beloved land of ours more than 600,000 lives are sacrificed to preventable diseases.—one every fifty seconds. Every year in this country 100,000 persons die of cancer. Every year 9,000 women die of cancer of the breast alone, one every hour. Why this awful, this wicked waste of human life, you ask? Largely because we cannot persuade the people to accept and apply well known and scientifically proved preventive methods. Largely because of delay in seeking competent medical advice; because of the lack of early diagnosis and proper treatment. Such delay is often fostered by a false impression of fatality, of the futility of treatment, often because of a trust in false, irrational and unscientific methods of treatment. Let it be said as earnestly as English words can say it; not pills and potions, not in the contents of countless bottles of patent medicine, covered with lithographed and fraudulent promises to cure multitudes of ills, not in the mere laying on of ignorant hands, not in incantations nor in the mere repetition of empty phrases or senseless formulæ, not in the stubborn denial of the fact of ill health and disease, and feigned blindness to the presence of its ravages; not in any of these or in all of these is the remedy for this tremendous toll of human life exacted by disease. Only in the early and intelligent application of scientific and proved means of cure in the hands of qualified men is there hope of saving these otherwise doomed lives.

These means of cure should not be feared, their employment should not be delayed. They should be welcomed as blessed instruments of salvation in the hands of physicians qualified to use them. Nor is it as a rule necessary now to make long

journeys or to seek distant men for the application of these methods. To the credit of our profession be it said that efficient professional and hospital service can be obtained in practically every community of any size. It requires no prophet to foresee that intelligent support of the men and methods and institutions available will serve still further to multiply their number and to develop their efficiency to an even greater extent. The failure is not in availability but in the lack of accepting their services early.

Will you not help us in the struggle to make America safe for the health of its people, for our children and our children's children? Will you not study and accept for yourselves and for your children these saving forces at the hands of the qualified men of medicine? Will you accept them, or will you allow the eyes of your intelligence to be blinded by the claims of unscientific and selfish pretenders? I beg you, do not stop your ears to the appeals of the best friends which the homes and parents of America have today; the doctor and his colleagues the regular practitioners of medicine. Do not accept less than the best there is available for the cure of disease, for relief of human suffering, and prevention of premature death. Yours will be the rewards of better health, in added years, in a finer efficiency and greater joy in life.

And now, in bringing to a close these rather rambling remarks, may I give you as it were an X-ray view into the heart of the real doctor? Recently a memorial institute for the study of the cause and cure of cancer was opened in connection with the University of Minnesota. On the Sunday nearest the opening the request of the University and the medical staff of the institute asked the prayers of the churches for the success of their enterprise. That prayer reads thus: "Oh God, who declarest thy almighty power in showing mercy and pity to all who call upon thee, and who revealest to men in each new discovery, a part of thy truth: enable with thy grace, we pray thee, the dullness of our blinded sight, and grant a new vision to all those who serve thee in their search for the cause of cancer and its cure. Lighten their darkness, O Lord, we beseech thee, and mercifully direct them into thy path of knowledge and truth; grant them the realization that through Thee all things are possible; pour upon them the

abundance of thy inspiration; and finally lead them to the attainment of victory, that the scourge of cancer may be ended, and that we, being freed from this burden of fear, may live continually in the love and service of thine only Son, our Saviour Jesus Christ, Amen."

Uttered or unexpressed, this is the prayer and the hope and the desire of every real doctor: health and abounding happiness for all our people.

HISTORY OF OBSTETRICS*

R. M. ANDERSON, M.D.
SHAWNEE

Since the birth of Cain and Abel there has been a place in the history of medicine for obstetrics. In this field we find the midwife to be one of the most ancient of professional figures. Angelmann's careful ethnic studies of posture in labor show the universal tendency of primitive and frontier women to assume attitudes best adapted to aid or hasten delivery.

To Soranus of Ephesus of the Second century A. D. can be traced the obstetrical chair and podalic version. After Soranus there were no real additions before the time of Pare, some fifteen hundred years later.

Perhaps the worst phase of Renaissance medical practice was that of obstetrics. We know little of this art in medieval times, but we may gauge the extent of its degradation by what happened in the Renaissance period. In normal labor a woman had an even chance, if she did not succumb to puerperal fever or eclampsia. In difficult labor she was usually butchered to death, if attended by a Sairey Gamp of the time, or one of the vagabond surgeons. As a rule, only midwives attended women in labor, and in 1580 a law was passed in Germany to prevent shepherds and herdsmen from attending obstetrical cases. The abuses were remedied to some extent by city ordinances governing midwives. In the seventeenth century Mauriceau, Portal, Van Deventer and the midwives Louise Bourgeois, who attended Marie de Medici six times in her labors, and Justine Siegemundin, Court midwife to the Electorate of Brandenburg, gave considerable thought to obstetrics in their writings.

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Mauriceau in 1668 wrote on the disease of pregnant and puerperal women. His work was a sort of canon of art in its time, giving a good account of the conduct of normal labor, the employment of version, and the management of placenta previa. His book also gives an account of the author's adventures with the celebrate Hugh Chamberlin, of the Huguenot clan, who succeeded in keeping their invention of an obstetric forcep a family secret for nearly two hundred years. The forcep was invented by Peter Chamberlin, Sr. With it Hugh Chamberlin failed to deliver a rachitic dwarf confided to him by Mauriceau. A far more important work is the *Novum Lumen* of Hendrick van Deventer, which although printed in 1701, properly belonged to the seventeenth century. He practiced in his native city, The Hague, until his death. He has been rightly called the father of modern midwifery. His book gives the first accurate description of the pelvis and its deformities, and the effect of the latter in complicating labor. Hendrick van Roonhuyze was the first to write a book on operative gynecology and was known as a champion of Cesarean section, which he performed several times with success. He also gives reports of extra uterine pregnancy and rupture of the uterus. His son Rogier van Boonhuyze is the one to whom Hugh Chamberlin sold the secret of his obstetrical forcep about 1693. The status and education of the midwives of Holland were much improved by both Deventer and Roonhuyze.

During the eighteenth century the care of labor cases began to pass from the midwife proper to the trained male obstetrician. In the seventeenth century Peter Chamberlin attended Queen Henrietta Maria in a miscarriage and Hugh Chamberlin delivered the future Queen Anne. Julien Clement attended Mme. de Montespan at the birth of the Duc de Maine; afterwards delivering the Dauphine. He received the title of *Accoucheur* for his trouble. In due course male midwifery became the fashion among the great ladies of the court. Progress in this matter was, of course slow, and when a certain obstetrician told Joseph II that the Vienna women were too modest to have men midwives, that moral Monarch replied with fitting irony "*utinam non essent adeo pudicae*" (Would they were not modest to that extent). At first, as in some court circles today, the obstetrician simply supervised the conduct

of labor, but as soon as women began to permit physicians to examine, as well as deliver them, knowledge of the complex details of midwifery began to make rapid strides.

The teaching and influence of such men as William Smellie and his pupil, William Hunter, Baudelocque and others were responsible to a great extent for this progress. William Smellie not only practiced obstetrics in London but taught also, using a leather covered manikin supported by actual bones. He introduced the steel-lock forcep in 1744, and the curved and double curved forceps later. In his book he laid down rules for using the forceps and for differentiating contracted and normal pelvis by actual measurement. In 1767 John Harvie, who married Smellie's niece published a pamphlet in which he stated the advantages of external manual expression of the placenta over traction or internal manipulation. This was nearly ninety years before Crede. The same idea was conveyed by several Dublin obstetricians from 1781 to 1848, becoming an established mode of procedure there, and was known as the 'Dublin Method.'

William Hunter also trained at Glasgow under Cullen becoming the leading obstetrician and consultant in London. Here he labored to the end of his days, and few men have shown such austere devotion to science. He gave to the city of Glasgow a museum worth 100,000 pounds. Stephen Paget said of him: "He never married; he had no country house; he looks, in his portraits, a fastidious, fine gentleman; but he worked till he dropped and he lectured when he was dying." His special discovery of the "decidue reflexa" and the separate maternal and fetal circulation, in which his brother John Hunter had a part, is the foundation of modern knowledge of placental anatomy. Unlike Smellie he opposed the use of forceps and often exhibited his own covered with rust, in evidence of the fact that he never used them.

The nineteenth century marked great advancement. The new Vienna school where Skoda and Rokitansky did such good work was the birthplace of one of the greatest single achievements of the century—the determination of the true cause and prophylaxis of puerperal fever.

In the eighteenth century Charley White of Manchester, England, had enlarged upon the advantage of scrupulous cleanliness in obstetrical cases, but it remained for

some one later to tell the reason why. In 1843 our own beloved Oliver Wendell Holmes read to the Boston Society for Medical Improvement his paper on the Contagion of Puerperal Fever, in which he announced that women in labor should not be attended by a physician who had been conducting postmortem sections, attending cases of puerperal fever, or even cases of erysipelas, that they should wash their hands in calcium chloride and change their clothing as a preventative measure. Hodge and Meigs of Philadelphia, violently opposed this paper. In 1855 he wrote on Puerperal Fever as a Private Pestilence, in which he reiterated his views and stated that Semmelweis had lessened the mortality of puerperal fever by disinfecting the hands with chloride of lime, and the nail brush.

Semmelweis was a pupil of Skoda and Rokitansky, and in 1845 had become an assistant in the First Obstetrical Ward in a Vienna hospital. This ward had acquired such a high mortality in puerperal cases that women begged in tears not to be taken into it. Semmelweis had noticed that the second Ward did not have such a high mortality, and knowing that students came directly into the First Ward from the dissecting room, for instruments, often making vaginal examinations, and that the second Ward was devoted to the instruction of midwives, and much greater attention was paid to personal cleanliness in this latter place. He made a careful study of the autopsies in the fatal puerperal cases, and was aided by the following incident:—in 1847 Robitansky's assistant died from a dissecting wound. Semmelweis being present at the autopsy and seeing the postmortem appearances were much the same as in the puerperal cases, believed he had found the cause of the high mortality in the First Ward. After instituting the proper precaution the mortality sank from over nine per cent to less than four percent; and even lower than that the following year. Semmelweis is the true pioneer of antisepsis in obstetrics. He was so persecuted by the orthodox obstetricians of the day, that he left Vienna for Budapest, and became professor of obstetrics in the university there, and published his treatise on The Cause, Concept and Prophylaxes of Puerperal Fever. But his sensitive nature was too weak and not being able to stand the strain of violent controversy, he died in

an insane asylum. He is truly one of medicines martyrs.

Although antisepsis and even asepsis had been introduced into obstetrics before the time of Lister, the principle did not begin to take hold until surgeons and obstetricians alike began to cleanse their hands in carbolic acid and bichloride mercury. The first to use carbolic acid solution in obstetrics was Tarnier, of Paris, who invented the well known axis-traction forceps. After Semmelweis the most prominent obstetricians of the time were Simpson, Crede and Hicks.

James Y. Simpson was a Scotchman, and a professor of obstetrics in Edinburgh. He had a pleasing personality and acquired a large practice. He made a great name for himself by being the first to use chloroform in obstetrics. He introduced the long obstetrical forceps and many new "wrinkles." Although not without a certain touch of religious fanaticism, which may account for his somewhat bigoted opposition to Lister, he exerted a wonderful influence over his patients, and had all in all, one of the most remarkable personalities.

Carl Crede, a professor of obstetrics in Leipzig, introduced two things of capital importance. First, the method of removing the placenta by external manual expression; and the prevention of gonorrheal ophthalmia by instillation of silver nitrate into the eyes of the new born. He founded the obstetrical polyclinic at Leipzig.

Braxton Hicks was a famous teacher in London. He made an epoch in the history of obstetrics by introduction of podalic version by a combined external and internal manipulation. His observation on the condition of the uterus in obstructed labor and on accidental concealed hemorrhage are also highly esteemed by practioners of his art.

So far I have only mentioned a few of our illustrious dead. The tremendous advance in the past few years by those living are familiar to you all. There is still much work to be done. A maternal mortality of over sixteen thousand for the United States is far too great.

The bringing forth of the young has too long been looked upon as a physiological process, and heretofore we have looked upon the mortality and morbidity attending childbirth as a sort of divine visitation. If we are to lower this tremendous mortality rate following childbirth and re-

turn a mother to her usual place in society, within a reasonable time, we must have trained specialists in attendance, and we must insist that parturient women be cared for within the modern hospital.

It is only the education of women to the fact that, while bearing children is a physiological act, it is all too frequently attended by pathological changes in the mother. For this reason we can not stress too strongly the importance of hospitalization.

THE GENERAL PRACTITIONER,
PAST, PRESENT AND
FUTURE.*

CLAUDE T. HENDERSHOT M. D.
TULSA

It was my original intention to make my address as Chairman of this Section an extemporaneous one and the subject that first came to my mind was "The progress of medicine in the last quarter of a century", but my thoughts kept reverting to that grand and glorious type of medical men who occupied the stage of endeavour just previous to the years when we came upon the scene. I speak of that class which went out with the boys to the Civil War. Back in the days when all doctors were physicians, the days when specialists were unknown, and when a surgeon was a doctor with a little more nerve and courage than his fellows. The day of the horseback doctor if you please, when with well filled saddle bags carrying his meager stock of drugs and a few well used and ever ready instruments he was subject to call and ready to respond night and day in all kinds of weather, and at any distance to help alleviate the pains of suffering humanity, those were the days when they rolled the pills in the palm of the hand, and carried the scalpel in the vest pocket sharpening it as occasion arose upon the smooth inner surface of the boot, the days when laudable pus was a sign of improvement in surgical procedures. It was my pleasure to enter the study of medicine at about the time these good pioneers in the art of healing were stepping aside for the more advanced type, in the country the young fellow was coming along with his horse and buggy, ready-

made pills and tablets, a can of ether instead of chloroform, some diphtheria antitoxin and some notions that seemed revolutionary. He was just a step ahead of his predecessors, had perhaps had three years in college instead of two, and a few of us were lucky enough to have served internships at some hospital, others had studied under a preceptor and rejoined him at the end of their college career to gain that experience in practical medicine that was considered so essential at that time. I read in the Tulsa Tribune a few days ago an article by that grand old man of medicine, Dr. Hamilton Fisk Biggar, (who has been actively engaged in the practice of medicine sixty-three years) in which he spoke of the rebirth of the horse and buggy doctor, not in fact but in spirit. The doctor who was more than a mere medical advisor, the friend and counsellor of the community, an educator, political leader, marital adviser, home decorator and minister as well as doctor. He was the confidant of his entire clientele, the bearer of many a secret, their father-confessor and intimate associate. He had a sympathetic heart, a winning manner, and a true desire to serve humanity, his success was measured by the love and confidence of his patients rather than the amount of gold they put in his purse. This was the type of physician as I knew him in the early days of the present century not the County Doctor as you may suspect, but the majority engaged in the profession in the cities. From their ranks came the specialists that began to appear upon the scene at about this time, and I have often said and do not at this time hesitate to reiterate that the best specialists we ever had or ever will have are those who had their early training as general practitioners, he has hewn and always will hew his own destiny through the primeval forest of opportunity. He conducted his own laboratory tests, concocted his own medicines, dispensed the greater part of them, performed most of his own operations, (now delegated to the specialists,) gave his own enemas, in fact was technician, pharmacist, nurse and doctor combined, and while in some particular field of endeavor he might have been found wanting, as a composite type he was a true physician. With the advent of good roads, and fast flivvers the family physicians soon found that they were running over each other, rapid transportation

*Chairman's Address, Section on General Medicine, Neurology, Pathology and Bacteriology, Annual Meeting Oklahoma State Medical Association, Oklahoma City, June 22, 23, 24, 1926.

caused the elimination of the village doctor, they found their patients seeking the city specialists and the man of more advanced ideas. Not to be outdone a great many of the fellows from the rural districts again entered the college for P. G. work, and moved into the city ready to compete with the best of the general men or entered upon the ever widening field of specialism well equipped by previous experience in the field of general medicine to cope with the hand-made and ready to serve specialists found upon every side. Sad to relate too many young men entering upon the study of medicine today aspire to the special specialties instead of consecrating their lives to the aid of humanity in general by entering upon the greatest of all specialties "The treatment of sickness." The fittest epitaph engraved upon a granite shaft cannot express our success in life. Success to the true man of medicine is not measured in dollars and cents, but in the gratitude of those he has loved to serve. "He has achieved success who has lived well, laughed often, loved much, who has gained the respect of intelligent men and the love of little children, who has filled his niche and accomplished his task, who has left the world better than he found it, who has gone about his daily duties with the feeling that his endeavors in behalf of suffering humanity are bearing fruit, who has by diligent study and earnest application made the weak to stand, the blind to see, the deaf to hear, who has always given the best he had, saw the best in others and whose life was an inspiration, and whose memory will be a benediction. (Stanley). The changing order and the advent of many new and practical ideas brought about a transition at this period, (the beginning of the second decade of the present century). Studies in Blood Pressure, the introduction of serums, many and varied as to type and usefulness. Intravenous therapy, blood chemistry and a never ending procession of advanced ideas caused the general man to look to his laurels and he again became a student, and we find men to-day practicing in remote parts of the country who are as well posted as their city brothers. Through membership in and attendance upon the meetings of their local societies, they are able to read papers and enter upon discussions that are indeed a credit to them. They are subscribers to and readers of the up-to-date journals and

are ready and willing to give their patients the benefit of the knowledge thus gained. The men who invented steam engines, power looms, cottongins, railways, ocean steamers, their successors who applied electricity and devised internal combustion engines simply played havoc with the good old times. So in medicine, advanced ideas in mechanics, chemistry, and electricity caused the Medical Scientists to bring into being new and varied instruments and equipment, definite means of obtaining direct results, the guess work was taken out of diagnosis by the application of the fluoroscope and X-ray, the functional kidney test, the electrocardiograph and many other instruments of precision. Ethyl-chloride and nitrous oxide strangled the hold of chloroform and conserved the waste of ether. Spinal punctures and the Wassermann test revealed the skeleton in many a family closet, and the obese fellow well met and the plump and pulchritudinous matron learned to count their calories and reduce their consumption of food much to their own relief. Group Medicine, and close co-operation between the internists and specialists has done much to bridge the chasm that threatened to destroy the dignity of the profession and reduce it to a program of commercialism that would have been deplorable. But it may be asked, is there as a matter of fact, a need for close co-operation among doctors? Which may be answered by another query, can they escape the law of specialization and integration which Herbert Spencer elaborated so remorselessly in his ponderous polysyllables? It is at this point that the familiar procession of facts should pass across the scene, the enormous increase in scientific knowledge and in technical skill, the inevitable dividing up of these resources, the entrance of the consultant, the development of hospitals with their rules of standardization, dispensaries, and diagnostic laboratories, the appearance of group medicine, the opening of pay clinics, the growth of industrial medical services, the progress of public health with its salaried officers and nurses.

Foreign systems of health insurance and here and there the shameless rise of actual state medicine. Shall all this result in a revolution in medicine which shall mean that only the rich shall have the services of the high priced specialist and the poor shall have the poor doctors, under the present arrangement of free clinics and dis-

pensaries the poor share the services of the best in the profession gratis while the wealthy pay the office rent, golf fees, and buy the Cadillacs and Packards for the specialists.

Nor can the general practitioner be denied a paragraph in this interrogatory discourse. His general disappearance has been predicted. "How" it is asked, "can he survive if prestige and emoluments are going to the specialists, if sanitarians and hygienists keep cutting down the output of patients, if free and pay clinics increasingly offer the competition of organized service, if hospital connections continue to be limited and elusive, if the public fails to discriminate between fairly well trained men and the fake healers. The outlook may not seem to bright but, as we have seen the family doctor is still the overwhelmingly prevalent type both in city and country. He may not be keen about going into rural practice, but there seems to be life in the old boy yet. Who knows? Society may gradually induce him to shift his attitude. He can still find a place in group practice, in hospital connections, through full time contract practice with industrial concerns, or in the ever broadening field of preventative medicine. This then leads to the perspective of the future. Visualize if you will the wide field of usefulness that spreads out before us, as long as humanity exists there will be disease, and where disease exists you will find the doctor, ever ready to combat the bitter foe, and by his constant application of the means at his command he stays the epidemic, conserves health and points the way to better living thus extending the period of longevity.

Signs of progress are not lacking in spite of the prevalence of quack remedies, and the existence of ignorant and unscrupulous doctors, quaint deniers of disease, wonder working healers, and erudite foes of evolution. Evolution may seem to vacillate once in a while, or it may appear to stumble forward, but it never completely stops nor does it ever retrograde.

As a Broadway play must have a happy ending, so I presume this address must close upon a helpful, hopeful note, no matter what the baffling complexity of the subject or the calamitous incompetence of the speaker. It is not easy to violate an established tradition. One is almost tempted to fall back upon the pancea for all ills and reaffirm confidence in educa-

tion. Says George E. Vincent, President of The Rockefeller Foundation. "The old order changeth." That is the law of life. To this changing order all, even doctors must adapt themselves. The larger number of minds that see the trend of things, the better the chances of gradual adjustment, and none are as ready to recognize this as the general man in medicine. So we welcome the specialists many and varied, we glory in their attempts to divide up the specialties, but with it all still on the fighting front you will find the family Doctor, true and tried, ever ready with loving sympathy to advise the poor and afflicted, to lend his aid in diagnosis, to bear the burden and discomfort of storms and night calls, to point the way to health and to join hands if need be with the specialist over the sick bed in an honest endeavor to alleviate the suffering of humanity.

In closing I quote from an address delivered not long ago by Wm. Mayo, "If I had my wish", said he, "I'd be a young doctor just starting out again or better yet a freshman at medical school. It is wonderful to contemplate the future of medicine, with humility and an open mind, if our doctors work hard and take nothing for granted, they shall yet make this world so much a better place to live in as few of us have ever dared dream. And with him I wish to join in saying. "I wish I was young again, and in the ranks, and starting life all over to work with them to do it."

DUODENO ARTERIO MESENTERIC ILEUS.*

F. A. HUDSON, M. D.
ENID

I am not presenting this subject because I believe that I know very much about it, but because it has been of much interest to me since I had some time ago a case, which I will describe later, of absolute obstruction of the third part of the duodenum. I have since come to believe this to be, in some degree, a fairly common condition and too rarely recognized. The duodenum may be obstructed at any location, in the first part by scar tissue and in the second part by such things as inflammations and tumors of the pancreas, duo-

*Chairman's Address, Section on Surgery and Gynecology, Annual Meeting, Oklahoma State Medical Association, Oklahoma City, June 22, 23, 24, 1926.

denal diverticuli, bands between the colon duodenum and gall bladder etc. But it is the obstruction of the third part due to pressure from the superior mesenteric vessels which I wish to discuss in this paper. What I am about to say does not apply to duodenal obstructions elsewhere or from other causes.

The embryonic development of the duodenum brings it into close association with certain structures which may interfere with it. In quadrupeds the duodenum is a free loop and hangs downward. In man the third portion is more fixed and lies in an angle between the vertebral column and the great vessels behind and the root of the mesentery in front. The duodenojejunal angle is suspended by the ligament of Treitz. This together with the arrangement of the peritoneal folds in this region makes this part of the duodenum subject to changes which may change the caliber of the lumen. The primitive bowel extending to the umbilicus contains the blood supply to the whole tract. This becomes the superior mesenteric artery and continues to supply the small and the first half of the large intestines. As the bowel lengthens the large intestine rotates to the right and upward and the small intestine under and to the left. In this way the superior mesenteric vessels are brought across the end of the third part of the duodenum.

If the ascending colon is not fixed to the parietal peritoneum of the right flank and the bowel drops and drags on its mesentery or if because of lack of fat or decreased intra-abdominal pressure the small intestine drops into the pelvis we have potentially the conditions for this type of ileus. So after all this condition is only a manifestation of ptosis. The obstruction seems to be due first to the pressure of the root of the mesentery on the duodenum and second to a tendency for the duodenum to kink over the band. There must be either this tendency to kink or some secondary inflammatory condition because the obstruction can be absolute, no amount of pressure on the distended duodenum being sufficient to force its contents into the jejunum. I myself have opened two such cases and although I could not see just how the obstruction came about there was no question as to its location at the crossing of the mesenteric vessels.

That such a condition could exist seems

to have been known to Rokitsansky in 1842; Fagge, H. C. Thompson, Glenard, Byron Robinson, Codman, L. F. Parker, all described the condition years ago. Bloodgood reported the finding on several cases and located the obstruction at the crossing of the mesentery. L. F. Parker first suggested duodeno jejunostomy for the condition and A. L. Stavely first performed this operation in 1907.

Byron Robinson reports a case as early as 1895 with a cure following gastro-jejunostomy. Wilkie in 1921 went into the subject extensively and concludes that the chronic type of obstruction is common and that the lifting up of a ptosed and dilated ascending colon seems to relieve the obstruction which occurs at the crossing of the mesenteric vessels. The most extensive article published is by Kellog from whom I will quote farther on. Dr. E. M. Miller of Chicago wrote a very instructive paper on chronic duodenal ileus in 1925 and his conclusions are as above stated. On the other hand George Robertson of Edinburgh writing on Acute Dilatation of the stomach and intestines with a consideration of Chronic Duodenal Ileus, maintains that the condition is not due to the mesenteric vessels and seems to believe that it is caused by a lack of balance between the vagus and the sympathetic. His arguments are interesting and in some of his reported cases this may have been the cause. However, it seems to me that he has confused this condition with acute dilatation of the stomach. And the fact that the condition occurred in neurotic individuals would seem to show that ptotics are neurotics and not that nervousness is the cause of ptosis. Coffey in his monograph on Gastro Enteroptosis published in 1923 describes this condition in detail and shows the connection with ptosis very clearly.

The published reports of autopsies of these cases can be summarized as follows: Obstruction located where the superior mesenteric vessels cross the duodenum. Duodenum dilated in some degree even up to half the size the stomach. Duodenal wall is hypertrophied, in extreme cases to thickness of stomach wall. The pylorus is usually dilated but may be in spasm. Small intestines are usually empty and in the pelvis, or the caecum and ascending colon are in the pelvis or both. You have all noticed that in some cases the intestine seems to be held by suction in the pelvis

and that there is considerable resistance to pulling it upward and that it comes out of the pelvis with a sound similar to the one made by one pulling one's foot out of the mud. This to my mind is a very significant thing and explains how the condition cannot at times be relieved by position even by such a measure as standing the patient on his head. Observers have stated that they have watched a distended duodenum empty after passing the finger under the mesentery and lifting it.

In dealing with the symptoms I will begin by quoting from Kellogg's report of forty-one cases, twenty-seven of whom suffered from headache, twenty-five from regurgitation, thirty from eruptions, twenty-five from borborygmus, thirteen from heartburn, thirty-five from loss of weight, thirty-eight from constipation, twenty-two from vomiting, nineteen from vomiting of bile, four from viscous circle, nine from bilious attacks, twenty-nine from epigastric pain, seven from pain in the right hypochondrium, six from pain at the duodeno jejunal junction, nine from pain in the back, eleven from pain which had a distant relation to the taking of food, eleven with pain dull in character, thirteen with sharp pain, six with colic, thirty-four with pain of some kind or other, seven with a normal acidity, nine with a low acidity, seventeen with a high acidity, twenty-three with impairment of motor function. He further states that three cases were operated for gall stones, two for appendicitis, one for ulcer, three for adhesions, four who had had previous gastro enterostomy for ulcer, and that fourteen were correctly diagnosed previous to operation. Of the forty-one cases, thirty-one are completely cured, four still have symptoms but are improved, and one has obtained no relief. The rest of the cases he has been unable to follow. He divides them symptomatically in four types, first the asthenic type, with toxic symptoms such as vomiting, headache, neuralgia, mental depression, hyperesthesia, neurasthenia. Second, the type with duodenal obstruction with incompetent pylorus in which bile regurgitates easily into the stomach. Third, obstruction with hypertrophy in which very little bile regurgitates and cramp-like pains predominate. Fourth, dilated duodenum with steady dull pain and duodenal tympany. This type is easily recognized in the radiograph. That the symptoms are markedly modified by the condition of the pylorus is easily under-

stood. If relaxed the duodenal contents regurgitate into the stomach and vomiting gives relief, if spasmodic the pain is either cramp-like or dull depending upon the effort made by the duodenal muscle to expel its contents. The pain may be a dull ache to the left above the umbilicus and it may be relieved by deep pressure or it may be in the gall bladder region and extend to the back and shoulders. The type of pain of course depends upon the activity of the duodenal peristalsis.

The chronic cases are usually women and are usually thin. They give a history of indigestion for years, and of biliousness. The symptoms become more severe as they grow older and are apt to become rapidly worse after the first baby. Their attacks begin with constipation and are followed by headache, epigastric discomfort, nausea and vomiting. If the symptoms persist for any length of time the patient becomes very much weakened and looks ill for days afterward. Cyclic vomiting in children with headache, loss of appetite, temperature, thirst, coated tongue, constipation and vomiting are believed to be frequently due to this condition.

The acute and complete cases begin with epigastric pain usually followed by vomiting but sometimes not at once. The vomiting later tends to become continuous and the pain to cease. The patient very rapidly becomes extremely ill with rapid thready pulse, dry tongue and obstinate constipation. If thin the distended stomach and duodenum can be seen and felt distinctly. Use of the stomach tube causes the distension to disappear. Radiographs after a barium meal will show either a dilated stomach or a dilated stomach and duodenum dependent upon whether or not the pylorus is spastic. The condition is very rapidly fatal.

A good many years ago a child was brought to me who had become very suddenly ill the day before. His abdomen was tremendously distended, pulse rapid and thready, face pinched and pale, temperature, about 100. He regurgitated small quantities of fluid frequently. He had had pain the night before but had no acute pain when seen by me. He had been picking grapes the day before and was supposed to have eaten a great many. Nothing was obtained by use of the stomach tube or by enemas. Since he evidently had some kind of obstruction I opened the abdomen with the intention of doing an en-

terostomy. The bowel was collapsed and the stomach was enormously dilated practically filling the abdomen. The stomach tube was again passed with practically no results. It was found that the tube would immediately become clogged with grape pulp. However by repeatedly inserting the tube and clearing it of pulp the distension was somewhat relieved. And in looking for the obstruction, for I still believed it to be an ileus with acute dilatation of the stomach, I found that the small bowel was collapsed up to the duodenum which was distended. I did not know what to do for him and the patient's condition was such that I closed the abdomen continuing afterward my efforts to empty the stomach with the tube. He died the same night.

I have found a case reported in the Indian Medical Gazette in 1925, almost exactly like this one but in an adult. The author did not know the condition but has since looked into it and has written a very good paper on the subject.

A more recent case is a boy of nine, whom his parents stated had always been delicate and suffered from frequent attacks of bowel and stomach trouble and nervousness. The child's health had been so poor that it interfered very much with his school work. This boy was run over by a binder and the femur fractured in both legs. I was unable to hold the bones in good position and after about a week reduced both fractures by the open method and the introduction of absorbable bone plates. About a week after this operation which he stood very well, one afternoon he complained of pain in the epigastrium and began the same night to regurgitate small quantities of fluid frequently. He did not at any time vomit a large quantity. The next morning the child was desperately ill, too ill to operate. There was no question of the diagnosis because the dilated stomach and duodenum could be perfectly seen through the thin abdominal wall and would disappear after washing. The lower part of his abdomen was flat. Duodenal tube was inserted and left in place and the stomach washed frequently with normal saline. Several times during the day I distended the stomach with fluid. Barium meal given through the duodenal tube did not leave the stomach. Radiographs had the appearance of a pyloric stenosis. The duodenum was quite palpable and visible through the abdominal wall. The tip of the tube remained in the stomach and did not

pass into the duodenum. During the day the pulse reached one hundred-eighty, and the temperature 104 1-2. The cases I have seen reported did not have temperature and some were subnormal. The stomach was kept empty by aspiration through the tube and he was given large quantities of double normal salt solution per rectum, under the skin and intravenously. The next morning his pulse was 120, temperature 101 1-2, and his appearance much improved. This is an interesting example of the effect of sodium chlorid therapy on high intestinal obstruction.

On operation the pylorus was not stenosed. The duodenum was dilated and the jejunum and ileum were collapsed. The dilatation ended abruptly where the mesentery crosses the third part of the duodenum. A duodeno jejunostomy did not appear very easy to do in this case and his condition was poor. So I did a posterior gastrio-jejunostomy, an operation with which I was much more familiar. He made a very good recovery.

While in the hospital he had several attacks of epigastric colic apparently caused by retention of fluid between a spastic pylorus and the obstruction. This was relieved by leaving duodenal tube in place and withholding fluids. He has had a few attacks since of this character, but his parents think he is doing all right. Radiographs taken since show the stomach emptying mostly through the gastro enterostomy opening. Now this took place with the boy lying flat on his back in bed. Dr. A. B. Small has since told me that if fluid is injected into the abdomen in sufficient quantities to float the intestine out of the pelvis and patient placed in the inverted position the condition will then be immediately relieved. I have not had an opportunity to try this procedure.

Of the chronic cases I have had several and will report two which are quite typical. This woman was twenty-five when she came to me six months ago. She weighed eight-five pounds and was of average height. Her chief complaint was vomiting. She had always, even as a child, had an uncertain appetite, been thin, had headaches and vomiting spells. During pregnancy four years ago she gained weight and felt well. After delivery her symptoms rapidly became worse, vomiting almost every day. She lost weight rapidly and had much epigastric distress, and frequent headaches. She came to Oklahoma

City, and was put to bed on an ulcer diet. Her symptoms left, she gained weight, and was quite well for some months after which she began to lose and had a return to the old symptoms. She returned to Oklahoma City, and had an operation for repair and was kept in bed for some weeks. She again gained and had no symptoms for some months when she again began to lose and the old symptoms returned. Examination showed a young woman very thin and nervous, of the ptotic type. The caecum and ascending colon were almost entirely in the pelvis and the stomach down to the brim of the pelvis. She was fed every two hours in the hospital for two days, and she vomited after every feeding. The foot of the bed was elevated and the two hour feedings continued. She vomited but once in the next week and improved very much. On operation a ptosed caecum, a s c e n d i n g colon, transverse colon and small intestine was found. The duodenum was considerably dilated. This woman has almost general ptosis which is not as suitable for operation as a right ptosis. A colopexy after the technique of Coffey was done, the caecum and ascending colon being sutured into the right flank and the transverse colon suspended to the anterior abdominal wall by means of the mesocolon and the omentum. This woman has vomited once since and that was during an attack of the influenza. In spite of the influenza and a disregard of directions as to her diet she had gained two months ago between fifteen and twenty pounds. If she retains her weight she will be well, otherwise the drag of the small intestine may cause more trouble. The relief of the colonic ptosis however makes it easy for these women to gain weight. I have found this true in even old cases of extensive ptosis.

Another woman was brought to me last May a year ago. Her history in general was like the one above. She was forty-five years old. She had never been well, always thin, had frequent headaches, occasional vomiting spells, and constipation. She was nervous, emaciated and in very poor condition. She weighed eighty pounds. She was put to bed in an inverted position for three weeks on a forced diet. She ate only under compulsion. A colopexy was done in this case. I saw her last fall and she had gained thirty pounds and had been picking cotton. I saw her again this May. She weights 150 pounds, a total gain of

about 70 pounds in one year, and her only complaint is due to some symptoms due to the menopause.

TREATMENT

Acute cases, empty the stomach, elevate the foot of the bed, and put the patient on the face, and give sodium chlorid and water in large quantities. I am anxious to see the results of flooding the peritoneal cavity with fluid. Any operative procedure must be done early because of rapid dissolution of patient. Duodeno jejuno-stomy seems to be the operation of choice. If for any reason this is impracticable gastro enterostomy may relieve the condition, as in my case and several I have found reported. I myself am of the opinion that a colopexy will relieve most of them.

Chronic type. If these patients can be fattened by forced feeding in bed in the inverted position or even by such extreme position as across the bed with the head on the floor they may be kept in condition afterward by the use of abdominal supporter, reclining position after meals, exercises in the reclining position to strengthen the abdominal muscles, etc. However they tend to loose weight and relapse. Bloodgood has reported and at one time advocated resection of the proximal colon. His results were good. I did this once myself eight years ago and the woman is well today. I know now that she had the condition I am discussing. But I did not when I operated upon her. Most of the authorities advocate duodeno jejuno-stomy and reports would seem to show excellent results. I think however, that most of them require nothing more radical than a colopexy. This is certainly true where the ptosis is mostly in the right colon. Perhaps some of the cases with marked ptosis of the small intestine may require a duodeno-jejuno-stomy. But it seems to me that when the drag of the colon is removed most of these cases promptly gain weight. They should be kept in bed for three weeks, post-operative and supervised until the proper weight is gained.

In conclusion it appears that there is a quite common condition produced by the drag of a ptosed bowel on its mesentery, that this condition is liable to be confused with ulcer, gall bladder disease, appendicitis, nervous dyspepsia, migraine, and many other things. And that it is only one of the many manifestations of ptosis and is curable.

NASAL OBSTRUCTION IN EARLY LIFE*

J. WALTER BEYER, M.D.
TULSA

I have chosen this subject for my paper for several reasons; first, because of the great number of cases of severe obstruction that never receive any attention, or, if any proper care, not until some serious and permanent damage has been done to the individual; second, because so little attention has been given the subject in the medical literature of today, and third, because of the slight attention given the subject by men practicing our specialty.

A great many men in our specialty are inclined to totally ignore the importance of the existing conditions and the patient is allowed to go along with the false impression that there is nothing to do that will afford any relief. I refer particularly to the cases of mechanical obstruction to the nares caused by trauma at the time of birth and it is alarming how many of these cases will come under observation if a careful, systematic examination be made of all children that are presented in our routine work. What I have to say on this subject is not intended as a criticism for the medical men who should be the first to bring the patient around for proper care, but rather to invite serious consideration of the subject, and if possible to stimulate greater interest in what I consider a very important and sadly neglected subject.

Almost every day some child is presented in our office with a statement from the parents that there must be some obstruction to the nasal breathing and then the parent will relate that the child has had adenoids and tonsils removed with slight, if any relief. A careful examination of the patient will reveal a pronounced obstruction, usually low down in the nares and consisting of either a dislocated septal cartilage or one that has been torn away from its attachment to the nasal spine at the time of the child's birth, and has never been recognized. Of course these cases are never benefitted by an operation for the removal of tonsils and adenoids for the cause of the nasal obstruction still exists, and in the past has received very slight or no consideration.

In my experience these cases are entitled to a great deal of consideration they have not been receiving for there is no soil more fertile for the harboring of infection, and there is no membrane in the human body more capable of absorbing the products of infection than that of the nasal chambers. These children are the ones that fall prey to respiratory diseases, they always have an impaired resistance due to their mouth breathing and the constant harboring of infection. The cases presenting the severe obstruction are anemic and usually have an impaired mentality and appear listless and fail to advance in their school work. The parent will frequently say that the child sleeps poorly and never seems rested in the morning and in a great many instances does not take the same interest in playing that other children of the same age exhibit.

I am totally ignoring those cases spoken of in some text books as having nasal obstruction brought about by developmental defects, as I consider them to be of very rare occurrence, and I make no reference to the cases of failure of development of the nares due to mouth breathing, caused from the presence of adenoids, except to invite careful examination before promising relief from the symptoms of nasal obstruction, which is expected from the removal of adenoids. There is a large percentage of these cases that appear in every man's practice and they have been receiving very little, if any, consideration in most of our offices. Some of the older writers have written that no attempt should be made to relieve them by any surgical procedure until the face bones are fully developed and a great many of us are still passing on that advice which condemns the subject to a miserable existence for a considerable period of time and frequently results in the development of some intercurrent disease with a fatal issue, or permanent impairment that should have been prevented. Our analysis of these cases will show that most of them have a well established sinus infection, some of them harboring great quantities of pus and with all hope gone of ever having a well balanced and healthy upper respiratory system. A large percentage will have developed serious lung complications. Cardiac and renal disease are frequent results of infection that is harbored by such an obstruction, and the prevention of these occurrences has received very slight, if

*Chairman's Address, Section on Eye, Ear, Nose and Throat, Annual Meeting, Oklahoma State Medical Association, Oklahoma City, June 22, 23, 24, 1926.

any, consideration. All of us who have done any obstetrical work in general practice will recall many instances of hard or delayed births where the severe pressure to the face has so distorted the countenance of the infant that they have very slight appearance of a human being and some of the mechanical deliveries are lacerated and badly crushed about the nares. Is it any wonder that some serious damage results within the nares? And yet nothing is done other than some slight cleansing measures. A great many of these cases will discharge copious quantities of serum and pus from the infection that results from the severe trauma within the nares. Without the extraordinary resistance to infection that the nasal mucosa is endowed with, a great many of these cases would result fatally. If some injury at birth occurred to some other portion of the body it would certainly be given proper care but not so with these serious injuries within the nares that result in so much grief later.

The presentation of this paper is intended as a plea for proper and just consideration of this subject by the ones in a position to render such services, or to see that such services are rendered if they feel themselves unqualified to do so. It is just another step in preventive medicine and in my opinion a very important one.

It is a very simple matter to replace the structures that have been so badly disorganized and the after care is simple and need be carried out but a very few days.

The care of those cases that have not been properly attended to at the time of birth is a very different matter, but just as important for the proper development and healthfulness of the growing child.

Regardless of age, when a child is presented with a severe mechanical obstruction to the nares and with definite evidence that as a result of the obstruction its health and proper development are being seriously interfered with, some measures for its relief are demanded. Rarely is it advisable in children under the age of three years to resort to any surgical interference. Some degree of relief can be afforded these younger children, and protection against infection can be secured in most cases by the adoption of systematic employment of cleansing and hygienic measures until they are better subjects for providing some permanent relief. Regardless of the care given these younger children, a great many of them will be subjects

of recurrent attacks of middle ear and sinus infection. But the amount of protection afforded them and the freedom they will enjoy from acute infectious disturbances well justifies the efforts put forth for their interests.

After they have attained the age of three years, if the obstruction is pronounced and there is definite evidence of serious damage resulting from a continuance of the obstruction, some surgical interference should be undertaken for their relief.

The extent of surgical measures should be determined by the character and severity of the obstruction, always keeping in mind that the procedure is not attempted with a view of giving the patient a permanently free breathing space but rather as an emergency undertaking with the object of providing sufficient ventilation that the patient will be protected against repeated infections, and the other inconveniences and embarrassment they have been exposed to.

In the majority of cases a subsequent operation will be required for the permanent relief of the troubles and consists of a complete submucous resection of the nasal septum.

I have resorted to the removal of these obstructions, cartilaginous and bony, in children varying in age from four years to fourteen and fifteen with great benefit to the patients and with no regrets.

RECAPITULATION

1st. Cases of nasal obstruction are of frequent occurrence in the young and have not received the merited attention.

2nd. Men doing general practice and obstetrics are not sufficiently informed as to the frequency and severity of such injuries occurring at childbirth and as a rule take no measures for their correction.

3rd. A great many disturbances to the health and development of children are to be traced directly to mechanical obstruction in the nose and can largely be prevented by the adoption of proper medical and surgical measures.

4th. The prevailing attitude on this subject has been far from right and not in keeping with our advances in other branches of our specialty.

5th. A campaign for enlightenment of the men who have control of these cases early would be of inestimable value to a great many children and prevent much unnecessary suffering.



ARTHUR STROHM RISSE, A.B., M.D., F.A.C.S.
PRESIDENT 1926-27
OKLAHOMA STATE MEDICAL ASSOCIATION

THE JOURNAL

OF THE

Oklahoma State Medical Association

Issued Monthly at Muskogee, Oklahoma, under direction of the Council

Vol. XIX

JULY, 1926

No. 7

DR. CLAUDE A. THOMPSON..... Editor-in-Chief
Barnes Building, Muskogee, Okla.

DR. P. P. NESBITT.....Associate Editor:
Palace Building, Tulsa, Okla.

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This is the official Journal of the Oklahoma State Medical Association. All communications should be addressed to The Journal of the Oklahoma State Medical Association, Barnes Building, Muskogee, Oklahoma. \$4.00 per year, 40c per copy

The editorial department is not responsible for the opinions expressed in the original articles of contributors.

Reprints of original articles will be supplied at actual cost, provided request for them is attached to manuscript or made in sufficient time before publication.

Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive The Journal should call for immediate notification of the editor, Barnes Building, Muskogee, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes in address, birth, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A., will not be accepted.

Advertising rates will be supplied on application.

It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

PRINTED BY HOFFMAN-SPEED PRINTING CO., MUSKOGEE

EDITORIAL

THE ANNUAL MEETING

Notwithstanding early predictions of poor attendance on account of the date selected for the Annual Meeting, the attendance was well up to par. The fact that the Dallas meeting of the A. M. A. registered a larger number of Oklahoma physicians ever before known to leave their homes to attend a meeting did not mitigate against a good attendance at Oklahoma City. Five hundred eighteen physicians registered for the meeting, and that number did not include all who attended by any means. This is a matter of congra-

tulation, evidencing the fact that when we will we may have a good meeting. The Sections were well attended and the programs unusually interesting. Unfortunately a prolonged meeting of the House of Delegates encroached upon the time of the Surgical Section and two sections, not satisfied with the space allotted them in the Masonic Temple, secured meeting places elsewhere. The General meeting was well attended, Harding Hall being crowded on that occasion. At no time was the weather oppressive and attendants suffered no inconvenience. In this issue and the following will be found the transactions and various activities of the meeting.

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Editorial Notes—Personal and General

DR. A. E. MARTIN, formerly at Bristow, has moved to Panhandle, Texas.

DR. H. R. TAYLOR, formerly of Oklahoma City, has moved to Fort Apache, Ariz.

DR. and MRS. J. A. YOUNG, Clinton, have returned from an auto trip to Nebraska.

DR. C. CURTIS ALLEN, Frederick, is taking post-graduate work at Washington University.

DR. and MRS. WILLIAM L. BONNELL, Chickasha, are spending a vacation to Taos, New Mexico.

DR. and MRS. E. E. RICE, Shawnee, returned home recently from a 2500 mile motor trip to points East.

THE SPRINGER CLINIC, Tulsa, announces the association with it of Dr. K. C. Reese, Tulsa, in charge of pediatrics.

DR. and MRS. LEROY LONG, Oklahoma City, left recently for a two months' trip through Europe and the British Isles.

DR. J. V. Athey, Bartlesville, recently completed a 15 day training period as a reserve officer at Ft. Sam Houston, Station Hospital.

DR. GEORGE R. OSBORN, Tulsa, took a 15 day training period with the Medical Reserve Corps at Station Hospital, Fort Sam Houston, recently.

DR. S. DePORTE, Ardmore, is taking post-graduate work at New York City, expecting to return home in about two months. Dr. DePorte made the trip by motor.

WENDELL McLEAN LONG, son of Dr. LeRoy Long, Oklahoma City, has graduated from Harvard University Medical School at the head of his class, and will serve a two year internship at the Roosevelt Hospital, New York. He is a brother of Dr. LeRoy D. Long, Oklahoma City.

DR. A. C. BYARS, formerly of Dow, has located to Hydro.

DR. ROY WOLFERT, U. S. Veterans Hospital, Muskogee, is spending a vacation at Baltimore, Md.

DR. R. L. MITCHELL, U. S. Veterans Hospital, Muskogee, attended the Reserve Officers training camp at Fort Sam Houston, Texas, recently.

DR. S. E. MITCHELL, U. S. Veterans Hospital, Muskogee, recently attended the training camp for Reserve Officers at Denver.

DR. R. LARMER HALL, formerly of Waynoka, has sold his practice there to Dr. C. E. Wilson, of Seattle, Washington, and moved to Chicago, where he will specialize in surgery.

DRS. C. W. HUGHES and CLAUDE A. THOMPSON, U. S. Veterans Hospital, Muskogee, attended the training camp for Reserve Officers at Fitzsimmons General Hospital, Denver, in June.

DR. S. J. BRADFIELD, Bartlesville, has disposed of his practice to Dr. H. G. Crawford, formerly of Dewey. Dr. Bradfield has gone to Chicago for post-graduate work, after which he expects to locate at Amarillo, Texas.

DR. T. C. SANDERS, Shawnee, who has been studying in the principal medical centers of Europe for the past three months, sailed July 3, from Southampton on the "Berengaria", and will arrive home about the middle of July.

TRANSACTIONS, THIRTY-FOURTH ANNUAL SESSION, OKLAHOMA STATE MEDICAL ASSOCIATION

Oklahoma City, June 22, 23, 24, 1926.

House of Delegates, June 22, 1:00 P.M.

Call to order by the President, Dr. P. P. Nesbitt, Tulsa.

Reading of the minutes of the previous session dispensed with, approved as published.

The Credentials Committee, Drs. W. A. Tolleson, Eufaula, J. F. Park, McAlester, and Harry E. Breese, Henryetta, reported names of such delegates as had filed their credentials.

Committee reports were called for as follows:

Secretary - Treasurer - Editor presented his annual report to each delegate, which had previously been submitted to the Council. (See report in this issue.)

Medical Defense, Dr. L. S. Willour, Chairman, McAlester, requested that it be passed.

Hospitals, Dr. Fred S. Clinton, Chairman, Tulsa. (See report in this issue.)

Public Policy and Instruction of the Public. Dr. L. S. Willour, Chairman, McAlester, reported. (See report in this issue.)

Legislative, Dr. J. M. Byrum, Chairman, Shawnee, reported verbally.

Conservation of Vision, Dr. W. Albert Cook, Chairman, Tulsa, reported. (See report in following issue.)

The President appointed a Committee on Resolutions composed of Drs. J. M. Byrum, Shawnee, McLain Rogers, Clinton, and L. C. Kuyrkendall, McAlester.

Medical Education, Dr. Lea A. Riley, Chairman, Oklahoma City reported verbally.

Health Problems in Public Education, Dr. Horace T. Price, Chairman, Tulsa, reported. (See report in this issue.)

The House then proceeded to consideration of proposed amendments to the Constitution and By-laws. Dr. G. A. Wall, Chairman of the Committee appointed to offer and arrange amendments moved the adoption of the changes as submitted to the county societies and the matter came up for general consideration. It was moved and carried that the amendments be read and voted upon by sections.

Articles, one, two and three adopted, article four, rejected, article five rejected, articles six, seven and eight, adopted, article nine, rejected. It was then moved that the entire matter be rejected, carried. Three hours having been consumed in the discussion, it was moved and carried that the House adjourn until 8:30 A.M. June 23.

C. A. THOMPSON,
Secretary-Treasurer-Editor.

House of Delegates, June 23, 1926, 8:30 A.M.

Call to order by the President, Dr. P. P. Nesbitt, who introduced Dr. A. S. Risser, Blackwell, incoming President. Dr. Risser briefly outlined the policies he proposed to follow during the year. On unanimous consent of the House, Dr. George R. Tabor, Oklahoma City, was called to act as parliamentarian for the House. The credentials committee reported its completed list of accredited delegates and the first order of business, the annual elec-

tion was proceeded with. The following officers were elected.

President-elect, Dr. J. S. Fulton, Atoka.

1st vice-president, Dr. R. D. Long, Oklahoma City.

2nd vice-president, Dr. Fred S. Clinton, Tulsa.

3rd vice-president, Dr. Walter A. Howard, Chelsea.

Secretary-Treasurer-Editor, Dr. Claude A. Thompson, Muskogee, re-elected.

Delegates to the A. M. A., Drs. W. Albert Cook, Tulsa, 1927-28.

Dr. E. S. Lain, Oklahoma City, 1927-28 Councillors:

1st District, Dr. S. N. Mayberry, Enid.

2nd District, Dr. A. H. Bungardt, Cordell.

4th District, Dr. D. Long, Duncan.

7th District, Dr. C. T. Hendershot, Tulsa.

Muskogee was selected for the meeting place for 1927.

The Committee on Resolutions reported. (See reports in following issue.)

Motion adopted to reconsider action of yesterday, tabling consideration of the Constitution and By-Laws. It was moved and carried that article 14, which had provoked opposition, be adopted; was adopted. Moved to adopt Constitution and By-Laws as a whole. Moved to adjourn, motion lost. Motion to adopt Constitution and By-Laws as a whole lost. Motion to refer Constitution and By-Laws back to Committee, lost. Motion to add two members to the committee and that committee report for action in 1927, lost. After much discussion a motion was adopted to refer the matter to the committee for action and report, the committee to consider the draft then under discussion, one with certain changes from that draft then in the hands of Dr. Wm H. Bailey, but not completed, both of which were read by title, and one offered by Dr. Leonard C. Williams.

Dr. J. H. Scott, Shawnee, moved that a committee of three be appointed to advise and correlate with a committee to be appointed by the President, the joint committee to reconcile the various drafts offered and prepare them for submission to the county societies in time for action before the next annual session in 1927, motion adopted.

The house then adjourned.

C. A. THOMPSON,
Secretary-Treasurer-Editor.

PROCEEDINGS OF THE COUNCIL.

June 22, 1926, 9:00 A.M.

Call to order by the President, Dr. P. P. Nesbitt, Tulsa.

Present, Drs. Fulton, Bradford, Wall, White, Wilbour, Bungardt, Risser, Nesbitt and Thompson.

The President appointed a credentials committee composed of Drs. W. A. Tolle-son, J. F. Park, and Harry E. Breese.

An auditing committee composed of Drs. J. H. White, J. S. Fulton and Walter Bradford was appointed, the secretary handing to them all cash books, duplicate deposit slips, cancelled vouchers, certificate of the banking house holding the Association's funds and the report of the auditor upon the transactions for the year, May 1, 1925 to April 30, 1926.

The matter of defraying a part of the expenses of the Oklahoma County Medical Society incident to the Annual meeting was passed until the following meeting.

Dr. J. S. Fulton presented the matter of Bryan County Society upon the pending applications for membership of Drs. Colwick and Davis, Durant.

Report of auditing committee received and adopted, as follows:

The undersigned auditing committee beg to report that it has examined the financial report and cash books of the Association and find same duly correct. We commend the Secretary for the good showing made by the advertising department. We find the JOURNAL is run on an economical basis as possible commensurate with a periodical of such high literary value.

J. HUTCHINGS WHITE, M. D.

W. C. BARDFORD, M. D.

J. S. FULTON, M. D.

—o—

Dr. L. C. Williams, Pawhuska, Chairman of a committee from the House of Delegates to consider Medical Defense appeared before the Council and presented his views on the subject. A committee composed of Drs. Willour and Williams was appointed to further consider the matter.

The Council then adjourned until, June 22, 5:00 P.M.

C. A. THOMPSON,
Secretary-Treasurer-Editor.

THE COUNCIL.

June 22, 1926, 5:00 P.M.

Dr. P. P. Nesbitt, President, presiding.

Motion adopted to limit the expenditure in any one case of alleged malpractice brought against a member to \$100.00.

Motion adopted that in the matter of Bryan County Society and Drs. Davis and Colwick; Drs. J. S. Fulton be continued in charge.

Motion adopted directing the Secretary to advise Dr. Wm. H. Bailey that if the Oklahoma County Medical Society requests from the Council financial assistance in entertaining the Oklahoma State Medical Association the matter would be given official consideration. Medical Defense matters were referred to Dr. L. S. Willour, Chairman for report.

The Council adjourned until June 23, 2:00 P.M.

C. A. THOMPSON.

Secretary-Treasurer-Editor.

THE COUNCIL.

June 23, 1926, 2:00 P.M.

Present, Drs. Risser, Fulton, White, Long, Bungardt, Thompson.

Call to order by the President, Dr. A. S. Risser.

Dr. Fulton presented a letter from Dr. O. J. Colwick referring to membership in Bryan County Medical Society.

In the matter of E. P. Davis and Bryan County Society it was the decision of the Council that the meeting of that Society held February 16, 1926, was regular, but that the action of the society in appointing a Board of Censors to act on a matter at the time under consideration by the regular Board of Censors was irregular and is not sustained, that the Council requests the Councillor, Dr. J. S. Fulton to continue in charge of the case with a view to possible future settlement.

In the matter of Dr. O. J. Colwick the Secretary was instructed to advise Dr. Colwick to make regular application for membership as suggested in the Council action taken at Tulsa, May 1925.

The Council then adjourned.

C. A. THOMPSON,

Secretary-Treasurer-Editor.

OKLAHOMA STATE MEDICAL ASSOCIATION

Annual Report of the Secretary- Treasurer-Editor, Thirty-fourth Annual Meeting, Oklahoma City, June 22, 23, 24, 1926.

April 30, 1926.

To the Council, House of Delegates, and Member of the Oklahoma State Medical Association:

Gentlemen:

In conformity with requirements of the Constitution and By Laws I submit the following condensed statement of various transactions of my office from May 1, 1925, to April 30, 1926:

Cash book items of receipts and expenditures with carbon duplicates of bank deposits, together with certificates from officials of the Commercial National Bank, Muskogee, are in the hands of the Council for their audit. We made material gains for the year indicated over the previous year.

Membership:

On April 30, 1925, we had 1525 members; on April 30, 1926, we had 1575 members, a gain of 50 members.

Deaths in Our Membership:

Since last year's report, we have had to record the passing of the following members to the Great Beyond:

Dr. Charles Homer Ball, Tulsa.
 Dr. John Sterling Carriger, Chelsea.
 Dr. Lucian A. Conner, Coalgate.
 Dr. Milton Henry Edens, Anadarko.
 Dr. William Franklin Harris, Sentinel.
 Dr. J. N. Johnson, Atwood.
 Dr. Yulee M. Miller, Wirt.
 Dr. Leo A. O'Brien, Skiatook.
 Dr. J. Allen Perisho, Cache.
 Dr. Abraham V. Ponder, Sulphur.
 Dr. William E. Sanderson, Altus.
 Dr. Thomas Jefferson Shinn, Wagoner.
 Dr. John T. Slover, Sulphur.
 Dr. George A. Waters, Lenapah.
 Dr. Archa K. West, Oklahoma City.

Deceased since April 30, 1926, to date:

Dr. Niceus Walker Mayginnnes, Tulsa.
 Dr. Joseph A. Overstreet, Kingfisher.
 Dr. James W. West, Purcell.

Advertising:

Our advertising receipts have probably reached about the maximum of expectations considering our circulation and the fact that distribution, so far as national

advertisers are concerned, covers the State of Oklahoma. With the cooperation due from the individual member, however, who should at all times remember to support those who support him, we should be able to maintain our business at its present state and make slow gains in volume of receipts.

Medical Defense:

A detailed statement from the Association's attorney as to this work is in the hands of the Council for their action. As heretofore, there is a mixture of satisfaction and complaint as to this phase of our work—satisfaction being predominant. The status of the cases is as follows:

Tulsa District Court, No. 32250—pending.

Tulsa District Court, No. 24172—pending; will probably be dismissed.

Murray District Court, No. 3072—pending; defense by a commercial insurance company.

Oklahoma District Court, No. 47875—pending.

Wagoner District Court, No 5943—settled out of Court.

Lincoln District Court, No. 8136—pending.

Oklahoma District Court, No. 45152—dismissed.

FINANCIAL STATEMENT

OKLAHOMA STATE MEDICAL ASSOCIATION Dr. C. A. Thompson, Secretary-Treasurer-Editor.

May 1, 1926.

RECEIPTS

May 1, 1925, balance on hand in bank.....	\$ 2,577.49
Advertising and subscriptions	6,062.99
County Secretaries	6,635.00
Medical Defense Fund, loan.....	3,000.00
Interest on Liberty Bond	21.25
Total	\$18,296.73

EXPENDITURES

Printing: JOURNAL	\$5406.50
Miscellaneous.....	336.30
Office Rent	320.00
Office Supplies and Expense	186.55
Telephone, Telegraph and Drayage	27.08
Stamps and Postage	255.89
Press Clippings and Subscriptions	63.00
Refunds	10.00
Treasurer's Bond and Audit of Books	35.00
Christmas Gifts	27.95
Dedical Defense Fund (payment of loan)	3,000.00
Expense,—Dr. Morris Fishbein's trip.....	100.00
Expenses—Tulsa Meeting, 1925	76.15
Legislative and Delegates Expense	544.32

Secretary's Salary	2,303.21
Business Manager's Salary	1,870.00
Total	\$14,561.95
May 1, 1926, Balance cash on hand in Bank	3,755.78
Total	\$18,296.73

May 1 1926, Cash on hand in bank.....	\$ 3,734.78
Checks Nos. 1458 and 2301, outstanding	21.00

May 1, 1926, Total cash in bank as per their statement	\$ 3,955.78
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May 1, 1926, Cash on hand	\$ 3,734.78
Liberty Bond	500.00

Total cash assets, May 1, 1926	\$ 4,234.78
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STATEMENT

MEDICAL DEFENSE FUND OKLAHOMA STATE MEDICAL ASSOCIATION

Dr. C. A. Thompson, Secretary-Treasurer

May 1 1926.

RECEIPTS

May 1, 1925, Balance cash on hand.....	\$ 111.28
Time deposits cashed	4,150.00
Interest on time deposits	58.75
Oklahoma State Medical Association (payment of loan)	3,000.00
Total	\$ 7,320.03

EXPENDITURES

Attorney's fees and legal expense	\$ 800.75
Oklahoma State Medical Assn. (loan).....	3,000.00
Time deposits, Commercial National Bk.	3,000.00

Total	\$ 6,800.75
May 1, 1926, Balance cash in bank	519.28

Total	\$ 7,320.03
--------------------	--------------------

May 1, 1926, Cash on hand in bank.....	\$ 519.28
Time deposits, Commercial National Bk.	3,000.00

Total cash assets, May 1, 1926	\$ 3,519.28
---	--------------------

Total cash assets, Oklahoma State Medical Association	\$ 4,234.78
Total cash assets, Medical Defense Fund	3,519.28

May 1 1920, Grand Total cash assets.....	\$ 7,754.06
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Respectfully submitted,

C. A. THOMPSON,

Signed: Secretary-Treasurer-Editor

H. A. LEWIS, Auditor.

COMMERCIAL NATIONAL BANK

Muskogee, Okla., May 27, 1926.

TO WHOM IT MAY CONCERN:

This is to certify that there was to the credit of the Oklahoma State Medical Association on checking account with this

bank, at the close of business April 30, 1926, according to our records, the sum of \$3,755.78.

This bank was holding for said Association on that date, for safe-keeping, one \$500.00 Liberty Loan Bond, second, converted, 4 1-4 %.

Yours very truly,

(Signed) E. D. Sweeney,
Vice-President.

TO WHOM IT MAY CONCERN:

This is to certify that there was to the credit of the Medical Defense Fund on checking account with this bank, at the close of business April 30, 1926, according to our records, the sum of \$519.28; and on time deposit the sum of \$3000.00, evidenced by two certificates of deposit as follows:

No. 16961 dated 3-18-26 \$1000.00

No. 16962 dated 3-18-26 \$2000.00

Yours very truly,

(Signed) E. D. Sweeney,
Vice-President.

REPORT OF COMMITTEE ON HOSPITALS 1925—1926.

Oklahoma City, Oklahoma, June 22-24, 1926:

To the House of Delegates, Oklahoma Medical Assn.,

With a view of ascertaining the exact conditions in the interest of hospitals, and physicians' and surgeons' work in the same, the undersigned, during the past year has attended the following meetings: Santa Fe Medical and Surgical Society, Denver, Colorado, June, 1925; The Southern Medical Assn., Dallas, Texas, 1925; The Oklahoma State Hospital Assn., Oklahoma City, Oklahoma, December, 1925; The American Railway Surgeons, Chicago, Illinois, October, 1925; The Sectional meeting of the American College of Surgeons at Houston, Texas, January, 1926; The American Medical Assn., at Dallas, Texas, April, 1926; by special invitation delivered an address as guest of the Missouri State Hospital Assn., at St. Louis, Missouri, May 17, 1926.

The outstanding disturbing feature requiring education and adjustment is the continued growing or spreading Workmen's Compensation Law. The continued exacting demand for prompt and necessary hospitalization and surgical attention of illness or injury arising out of or the direct outcome of great industrial activity, necessitating prompt expenditure of large sums of money and the presentation of numerous reports without the assurance of reasonable reimbursement for financial and professional obligations assumed, calls for decisive action. Through the instrumentality of the Oklahoma State Hospital Assn., and the active co-operation of the Hospital Management and Modern Hospital, a nationwide campaign of publicity has been inaugurated to correct the

above evil. Some real progress is being accomplished and our Association should actively aid.

Many states have Workmen's Compensation Acts and do not even reimburse hospitals for the amount expended in hospitalization, with the possible exception of Ohio. The injustice is so rank, and the compensation is so low that some hospitals are forced to refuse to receive these patients unless the employer or other responsible individual provides for prompt payment of the expense for necessary care. Others more diplomatically evade the issue by stating that they receive no accident cases but care only for those requiring formal operations or medical attention. The Oklahoma State Hospital Assn., has a committee collecting information and hopes to have a formal report covering the situation more fully in this state at the Fall meeting.

The Oklahoma State Medical Association should no longer evade the issues or refuse to recognize not only the importance of this to the members of the profession now practicing in this state, but undertake to encourage young men of ability and promise to enter the profession by giving them at least the promise of sufficient reward for their endeavors to maintain their families free from impoverishment. Many members of this association throughout the state are interested in hospitals and it is difficult to secure a correct count and classification of all the hospitals in the state, however, according to the American Medical Assn., report, there are 113 hospitals in Oklahoma, providing 8,342 beds. Four hospitals have 11 interns, 15 have 50 resident physicians, a total of 19 hospitals having 61 resident physicians and interns. Thirty of these hospitals have approved training schools for nurses according to the Board of Examiners of this state. There are approximately 500 pupil nurses in training.

In order to stimulate interest, your chairman has tried to get all of those interested in hospitals to attend a group dinner at 6 p.m. some time during the Association meeting, after which an educational address would be delivered by some distinguished person. This year Dr. W. B. Bizzell, President of the State University, has consented to deliver a brief address. This affords a social opportunity for educational contact without interfering with any of the other activities.

This state has some splendid hospitals that will compare favorably with any anywhere in the country. The personnel in some of them is as good as the best. The most of the hospitals have been pioneered by members of your association to provide intelligent care of patients and render an organized community service. These institutions appreciate your interest in them and now respectfully request your very active support to break the strangle hold of those who attempt to starve into subjection hospitals and members of our association through continued contests, delayed payments, unreasonable reduction of fees and an effort to chastise or punish anyone who dares to challenge the unfair practices.

Hospital Management, April 1926 issue, says editorially;

"Although in most states the provisions of the workmen's compensation laws are inadequate from the standpoint of assuring cost to the hospital for service rendered an industrial patient, there are a number of hospitals throughout the country that find industry quite willing to meet

the cost of care given an injured or sick workman. These hospitals explain that their ward and part pay rates are for patients without resources and that industrial patients coming under the compensation law can not be regarded in this class, since the law definitely places responsibility on the employer for satisfactory treatment of the employe.

The practice of bargaining for service for industrial patients came into existence at a time when hospitals did not study costs as carefully as they do now, and at a time when costs were much lower. These conditions did not justify the practice, but they did make it difficult for an institution to reject a definite income of that nature. With steadily rising costs and growing deficits and with more worthy poor people in need of hospital care, a hospital today can not justify the acceptance of a ward or part-pay rate from a profit-making industrial concern that is legally responsible for adequate treatment of an injured workman. Hospitals that insist on cost for such service can satisfactorily explain a deficit and will have a much better story to tell the community.

That hospitals are refusing to accept industry as a part pay patient and that state groups in different parts of the country are actively engaged in attempting to remedy conditions that have placed an unnecessary burden on both hospital and community is a happy indication. Every hospital that cares for industrial patients should become actively interested in this question, for it not only affects the ability of the hospital to serve the community in the most capable fashion, but it is a question that touches the pocketbook of every one in the community to whom the hospital must look for maintenance."

This committee would appreciate a definite expression and instruction from your body in connection with the practical application of the Workmens' Compensation Act in this state in its relation to the hospitals and the medical profession.

Fred S. Clinton,

Chairman Committee on Hospitals.

(Adopted)

TO THE OKLAHOMA STATE MEDICAL ASSOCIATION.

Report of Committee on Public Policy and Instruction of the Public.

This new committee appointed by our President one year ago has made an organized effort to do some worth while work to bring to the Public information that would bring about a better understanding between the Public and organized Medicine.

The members of this committee wrote to each Councilor and he in turn to the Secretary of each County Medical Society requesting that an open meeting be arranged in each county where an address would be delivered to the Public. The response to this request was not what we had hoped for, however, several meetings were held and from the reports that I have received seem to have been a success.

The one objective accomplished during the past year which we felt has done much to bring our message to the people is the delivery of an address before the general assembly of our summer

teachers colleges. These Colleges are conducted in several places throughout the state and by going before these teachers about eight thousand were reached and these young men and women have carried this information to the schools not only in our cities and towns but also to the rural communities, reaching the younger generation where education of this nature must be begun if success is to be achieved.

We are in hopes that during the coming year more County Societies will interest themselves in this educational work, the demand for speakers in any county will be met and we wish to recommend that subject of Periodic Health Examinations be made an important part of the educational program and elaborated upon by the speakers who appear before the open meetings as well as being thoroughly organized and fostered by the component county societies.

Respectfully submitted,

L. S. Willour.

(Adopted)

REPORT OF COMMITTEE ON HEALTH PROBLEMS IN PUBLIC EDUCATION.

Your committee on Health Problems in Public Education reports a growing interest in the subject on the part of the public. There are many evidences of this fact, some of which are as follows: Addition of two counties, McCurtain and Kay, to the list with full time health units, making now nine counties in all serving 27 per cent of the state population.

The Oklahoma City High School's health service has been reorganized and enlarged with the addition of a woman physician to the staff. Many other schools have strengthened their health service and are having defects of children corrected. Health education has reached such an interest that the Department of Education has requested the Department of Health to outline a course of study for teachers, and for use in the school room. The tuberculosis and cancer clinics conducted by the Oklahoma Public Health Association are well attended and cases are being diagnosed early; their health crusade has been very effective toward interesting children in health habits. Under the auspices of this organization a health play writing contest was held the past year and one of these plays took the national prize. Many counties are asking for organized health departments.

A malarial survey has just been completed for the Department of Health by the International Health Board, which has interested the malaria sections very much in this problem. A crippled children's society has been organized whose aim is to correct physical defects of children. A Bureau of Mouth Hygiene has been created in the Department of Health.

The increasing public health activities have enlarged the scope of work of practicing physicians, adding materially to their incomes, and that through types of practice that is satisfactory because of more valuable work done for patients.

Another matter of interest to physicians is the fact that birth and death registration has been greatly stimulated the past year. At this time the state's vital statistics records are being checked by a representative of the Federal Bur-

eau of the Census and if found satisfactory, Oklahoma will be admitted to the Registration Area of the United States.

Carl Puckett, Chairman,
T. H. McCarley,
Horace T. Price.

(Adopted)

THE KANSAS CITY CLINICAL SOCIETY

Dr. F. H. McMechan of Avon Lake, Ohio, will address the Kansas City Clinical Society on "The Evaluation of Surgical and Anesthetic Risks from the viewpoint of the General Practitioner."

Dr. McMechan is Secretary General of the Associated Anesthetists and Executive Secretary of the International Anesthesia Research Society and Editor of its official organ, *Current Researches in Anesthesia and Analgesia*, the only American publication devoted to this specialty.

During the past twenty years Dr. McMechan, with the co-operation of his fellows in the specialty of anesthesia, has been a leading factor in the nation-wide organization of the Associated Anesthetists of the United States and Canada and its regional societies.

The Mid-Western Association of Anesthetists is holding its Sixth Annual meeting in Kansas City during Clinical Society week.

One of the principal activities of the anesthetist's program is the effort of the International Anesthesia Research Society to prevent needless deaths through the mechanism of a safety-first uniform anesthesia chart. The essentials of this chart are:—(1) The determination of surgical and anesthetic risk before operation. (2) Five-minute blood pressure guide and protection during the entire operative period. (3) Remedial therapy and after-care based on the degree of circulatory depression.

According to Dr. McMechan. "Even in this, the fourth era of Surgery, the general practitioner is still all too often called upon to answer the challenging jibe—"The operation was a success but the patient died!" Hence, the necessity for some routine way in which the family doctor, for his own guidance and his professional advice to others, may determine a given patient's fitness for operation and more accurately forecast the probable result."

In his lecture, Dr. Mechan will illustrate all his points by means of lantern slides showing the latest information on the classification of operative risks and comparative death rates, as well as the scope and utility of such diagnostic and prognostic tests as Moots' index for operability, the degree of circulatory depression, the nerve shock index, the engery index, Grover's blood pressure key, and his interpretations, the breath holding test and vital capacity, Cornell's test for

disclosing incipient nephretics, McIntyre's test for vagotonia and sympathicotonia, and the collected results of these tests put to routine use in good, fair and poor operative risks in a surveyed series of cases.

From the data that has become available as a result of this safety-first movement, Dr. McMechan is convinced that the family doctor can readily evaluate the patient's basic vitality even before referring the case for operation and can use this evaluation to forecast the probable outcome very accurately. Surgeons and anesthesiologists may also use these routine tests for further protection of operative patients.

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SQUIBB BRANCH OFFICE IN NEW ORLEANS

In the course of a swing through the Southern States, General Sales Manager, R. D. Keim of E. R. Squibb and Sons, recently completed arrangements for the opening of a branch office in New Orleans, La. This office, to be located in the Queen Crescent Building at 344 Camp Street, will carry a complete stock of biologicals, arsphenamines, insulin and a selected list of other Squibb specialties. The purpose is to provide the medical dental and pharmaceutical professions of Louisiana, Mississippi and neighboring states with fresh stocks of these products, kept under refrigeration at all times and available any hour of any day.

Mr. Keim was accompanied on his southern trip by R. S. Westgate, Assistant General Superintendent of the Brooklyn Laboratories of E. R. Squibb & Sons. They were joined en route by Southern States Sales Manager, W. S. Iverson of Atlanta and Office Manager J. J. Toohy of the Kansas City Branch.

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MAIL A. M. A. DIRECTORY INFORMATION CARD PROMPTLY.

During the month of June, every physician in the State should have received a Directory information card. Every one is urged to fill out and return the stamped card regardless as to whether he or she has changed their residence or office address.

This information will be used in compiling the DIRECTORY, now under revision in the Biographical Department of the Association. The Tenth Edition of the AMERICAN MEDICAL Directory is one of the altruistic efforts of the Association and is published in the interest of the medical profession which means ultimately in the interest of the public. It is a book of dependable data concerning the physicians and hospitals in the United States and Canada.

AMERICAN MEDICAL ASSOCIATION
June 15, 1926.

ROSTER

OKLAHOMA STATE MEDICAL ASSOCIATION

1926

ADAIR COUNTY

John L Bean	Westville
Dorsey P Chambers	Stilwell
Robert M Church	Stilwell
Benj F Collins	Claremore
B C Hiner	Stilwell
Joseph A Patton	Stilwell
I W Rogers	Watts
R L Sellars	Westville

ALFALFA COUNTY

Z J Clark	Cherokee
Milton T Evans	Aline
C O Gingles	Carmen
H E Huston	Cherokee
L T Lancaster	Cherokee
H A Lile	Cherokee
E C Ludlum	Carmen
S N Myers	Helena
T A Rhodes	Cherokee
A G Weber	Goltry

ATOKA COUNTY

Thomas H Briggs	Atoka
J W Crews	Stringtown
Joseph S Fulton	Atoka
Charles C Gardner	Atoka
John W Rollins	Atoka
Charles C Rose	Atoka

BECKHAM COUNTY

L V Baker	Elk City
J M Denby	Carter
A A Huntley	Elk City
J A Jester	Elk City
E S Kilpatrick	Elk City
J E Levick	Carter
Robert C McCreery	Erick
C W Merrell	Texas
W D Oliver	Erick
T D Palmer	Elk City
James L Patterson	Duncan
K R Rone	Elk City
M Shadid	Elk City
H K Speed	Sayre
William P Spence	Sayre
G H Stagner	Erick
J E Standifer	Elk City
O C Standifer	Elk City
DeWitt Stone	Sayre
W C Threlkeld	Sweetwater
V C Tisdal	Elk City
J D Warford	Erick
O N Windle	Sayre

BLAINE COUNTY

J S Barnett	Hitchcock
J W Browning	Geary
F R Buchanan	Canton
W F Griffin	Watonga
V R Hamble	Okeene
George M Holcomb	Okeene
H M Krebs	Eagle City
J B Leisure	Watonga
L H Murdoch	Okeene
A F Padberg	Canton

BRYAN COUNTY

D Armstrong	Durant
J L Austin	Durant
W G Austin	Mead
J A Bates	Coalgate
P L Cain	Albany
L B Clinton	Durant
Roy L Cochran	Caddo
B B Coker	Durant
James T Colwick	Durant
C D Dale	Caddo
W D DeLay	Durant
R P Dickey	Kenefick
H B Fuston	Bokchito
R H Grassham	Caddo
C J Green	Durant
A S Hagwood	Durant
John A Haynie	Durant
W A Houser	Durant
F M Jackman	Mead
J R Keller	Calera
Robert A Lively	Durant
D C McCalib	Utica
W H McCarley	Colbert
Howard McKinney	Durant
B H Moore, 416 Colcord Bldg.	Oklahoma City
Charles F Moore	Durant
C F Paramore	Durant
H P Pope	Bennington
C G Price	Durant
S W Rains	Platter
H C Ricks, Box 1237	Oklahoma City
G M Rushing	Durant
R E Sawyer	Durant
James L Shuler	Durant
C E Wann	Albany
A J Wells	Calera
Walter S Works	Bokchito

CADDO COUNTY

P H Anderson	Anadarko
W C Barton	Jonesboro, Ills.
Samuel Blair	Apache
B D Brown	Apache
J R Bryan	Cogar
George C Campbell	Anadarko
J H Cantrell	Carnegie
I Ross Clark	Carnegie
George B Coker	Cyril
Fred Dinkler	Fort Cobb
W L Dixon	Cement
Edward W Downs	Hinton
C P Gillespie	Anadarko
W T Hawn	Binger
J J Henke	Hydro
A F Hobbs	Hinton
Charles R Hume	Anadarko
E L Inman	Apache
R E Johnston	Bridgeport
W W Kerley	Anadarko
P L McClure	Fort Cobb
C B McMillan	Gracemont
C N Meador	Anadarko
John W Padberg	Carnegie
W B Putnam	Carnegie

R D Rector	Anadarko
F W Rogers	Carnegie
N E Ruhl	Hydro
C A Smith	Hinton
A H Taylor	Anadarko
Wade H Vann	Cement
R W Williams	Anadarko
S E Williams	Hydro

CANADIAN COUNTY

T M Aderhold	El Reno
H C Brown	El Reno
W B Catto	El Reno
H A Dever	El Reno
P F Herod	El Reno
T V Kuchar	Oklahoma City
Thomas Lane	El Reno
W P Lawton	El Reno
W J Muzzy	El Reno
P B Myers	El Reno
J T Phelps	El Reno
D P Richardson	Union City
J T Riley	El Reno
S S Sanger	Yukon
D F Stough	Geary
G W Taylor	El Reno
J E Tomkins	Yukon
S F Wildman, Shops Bldg	Oklahoma City
L G Wolf	Okarche

CARTER COUNTY

D Autry	Marietta
E R Barker	Healdton
J T Barnwell	Graham
J C Best	Ardmore
F W Boadway	Ardmore
J H Cameron	Healdton
H H Campbell	Wilson
David E Cantrell	Healdton
A G Cowles	Ardmore
J L Cox	Ardmore
S DePorte	Ardmore
Thomas W Dowdy	Wilson
A Y Easterwood	Ardmore
O J Gee	Ardmore
L D Gillespie	Berwyn
Walter Hardy	Ardmore
Forrest A Harrison	Ardmore
W G Hathaway	Lone Grove
Robert H Henry	Ardmore
H A Higgins	Ardmore
J T Hines	Wirt
T J Jackson	Ardmore
C A Johnson	Wilson
G E Johnson	Ardmore
Walter M Johnson	Ardmore
O A Kirby	Marietta
G L Langworthy	Cromwell
J R McCracken	Wilson
J C McNeese	Ardmore
John R Pollock	Ardmore
W C Sain	Ardmore
J W Shelton	Ardmore
E E Shivers	Wilson
R C Sullivan	Ardmore
L B Sutherland	Wilson
Dow Taylor	Woodford
F P von Keller	Ardmore
L B Woods	Wilson

CHEROKEE COUNTY

J S Allison	Tahlequah
Swartz Baines	Tahlequah
A A Baird	Tahlequah
W G Blake	Tahlequah

T J Bond	Tahlequah
P H Medearis	Tahlequah
J H Mitchell	Hulbert
Joseph M Thompson	Tahlequah

CHOCTAW COUNTY

E R Askew	Hugo
R S Bonner	Fort Towson
G W Edgerton	Hugo
Robert H Faught	Fort Towson
J F Gee	Fort Towson
Robert L Gee	Hugo
C H Hale	Boswell
K P Hampton	Soper
G E Harris	Hugo
Thomas Henderson	Fort Towson
W N John	Hugo
Edgar A Johnson	Hugo
V. L. McPherson	Boswell
J S Miller	Hugo
J D Moore	Hugo
R J Shull	Hugo
Reed E Wolfe	Hugo
William M Yeargan	Soper

CLEVELAND COUNTY

C S Bobo	Norman
Charles A Brake	Norman
G M Clifton	Norman
B H Cooley	Norman
J L Day	Norman
T J Dodson	Norman
Gayfree Ellison	Norman
J J Gable	Norman
D W Griffin	Norman
F E Hilsmeier	Norman
C Edgar Kahle, 21st and Robinson	Okla. City
J B Lambert	Lexington
R D Lowther	Norman
Warren T Mayfield	Norman
Charles R Rayburn	Norman
Carl Steen	Norman
E F Stephens	Norman
R E Thacker	Lexington
J M Thuringer	Norman
L A Turley	Norman
G W Wiley	Norman
J M Williams	Norman

COAL COUNTY

Frank Bates	Coalgate
W T Blount	Tupelo
J B Clark	Coalgate
H G Goben	Lehigh
W B Wallace	Coalgate
Howard M Wheeler	Helena

COMANCHE COUNTY

H A Angus	Lawton
J T Anthony	Lawton
C W Baird	Medicine Park
G S Barber	Lawton
Jackson Broshears	Lawton
E B Dunlap	Lawton
P G Dunlap	Lawton
L T Gooch	Lawton
Fred W Hammond	Lawton
J R Hood	Indianhoma
C P Hues	Lawton
Charles W Joyce	Fletcher
George E Kerr	Chattanooga
L C Knee	Lawton
Thomas R Lutner	Lawton
J W Malcolm	Lawton
C W Martin	Elgin

W J Mason	Lawton
W B Mead	Lawton
E Brent Mitchell	Lawton
Alexander H Stewart	Lawton

COTTON COUNTY

C W Alexander	Temple
A B Holstead	Temple
C F House	Walters

CRAIG COUNTY

F M Adams	Vinita
Louis Bagby	Vinita
C P Bell	Welch
W M Campbell	Vinita
N L Cornwell	Meridian
B L Elam	Centralia
F T Gastineau	Vinita
P L Hays	Vinita
A W Herron	Vinita
W R Marks	Vinita
Robert L Michell, USVB Hosp 90	Muskogee
C S Neer	Vinita
E A Pickens	Grove
D B Stough	Vinita
Charles F Walker	Grove
J L Wharton	Ketchum

CREEK COUNTY

W G Bisbee	Bristow
O C Coppedge	Bristow
O S Coppedge	Depew
O H Cowart	Bristow
G C Croston	Sapulpa
Charles M Driver	Mounds
Harry R Haas	Sapulpa
W E Harrington	Depew
Ben C Harris	Sapulpa
J E Hollis	Bristow
Walter J Hunt	Poteau
Leon Izgur, Children's Hosp, Randalls Island, N Y	
Alva Jones	Sapulpa
Ellis Jones	Sapulpa
E W King	Bristow
J B Lampton	Sapulpa
R E Leatherock	Drumright
P K Lewis	Sapulpa
W P Longmire	Sapulpa
A E Martin	Panhandle, Texas
C G Martin	Bristow
James M Mattenlee	Sapulpa
C L McCallum	Sapulpa
C R McDonald	Mannford
Charles H Morris	Slick
Paul Mote	Sapulpa
William J Neal	Drumright
J T Price	Shamrock
E W Reynolds	Bristow
S W Reynolds	Drumright
W P Robinson	Sapulpa
Paul Sanger	Drumright
Charles T Schrader	Bristow
O W Starr	Drumright
Roy M Sweeney	Sapulpa
Z G Taylor	Mounds
F W Turner	Sapulpa
E R Weaver	Shamrock
John M Wells	Bristow
George H Wetzel	Sapulpa
J Clay Williams	Bristow
Richard S Wilson, Natl Military Home	Dayton, O.

CUSTER COUNTY

C J Alexander	Clinton
W I Basinger	Butler
T A Boyd	Weatherford
C L Brundage	Thomas
E E Darnell	Clinton
J T Frizzell	Clinton
David G Gaede	Weatherford
Byron R Gayman	Butler
K D Gossam	Custer City
J R Hinshaw	Butler
A J Jeter	Clinton
Ellis Lamb	Clinton
C H McBurney	Clinton
O H Parker	Custer City
W W Parker	Thomas
McLain Rogers	Clinton
J J Williams	Weatherford

DEWEY COUNTY

Frank W Allen	Leedey
W E Seba	Leedey

GARFIELD COUNTY

J W Baker	Enid
B T Bitting	Enid
Paul B Champlin	Enid
Lee W Cotton	Enid
Julian Feild	Enid
Glenn Francisco	Enid
John W Francisco	Enid
David S Harris	Drummond
G G Harris	Lahoma
George O Hartman	Sharon, Pa.
J H Hays	Enid
T B Hinson	Enid
P W Hopkins	Enid
F A Hudson	Enid
William L Kendall	Enid
William G Kiebler	Enid
W E Lamerton	Enid
J E Mahoney	Enid
E Margo	717 No Robinson St, Oklahoma City
S N Mayberry	Enid
S H McEvoy	Enid
A L McInnis	Enid
W B Newell	Enid
A S Piper	Enid
W H Rhodes	Enid
D D Roberts	Enid
F P Robinson	Hillsdale
John N Shaunty	Enid
Roy D Stone	Covington
J R Swank	Enid
C W Tedrow	Enid
H F Vandever	Enid
John R Walker	Enid
J M Watson	Enid
R H Wigner	Enid
A E Wilkins	Covington
Eugene J Wolff	Waukomis

GARVIN COUNTY

T C Brannum	Pauls Valley
James R Callaway	Pauls Valley
John R Callaway	Pauls Valley
J E Cochran	Byars
H V Dresbach	Maysville
Lewis Gaddy	Stratford
Herbert R Goshorn	Maysville
W P Greening	Pauls Valley
T F Gross	Lindsey
G L Johnson	Pauls Valley
E H Lain	Lindsey

John K Lindsey	Elmore City
N H Lindsey	Pauls Valley
H P Markham	Pauls Valley
E E Norvell	Wynnewood
C M Pratt	Lindsey
W E Rawls	Paoli
M E Robberson	Wynnewood
W E Settle	Wynnewood
J B Shannon, 217 Liberty Bldg.	Oklahoma City
A H Shi	Stratford
James W Stevens	Pauls Valley
C L Sullivan	Elmore City
Ernest Sullivan, Med Arts Bldg.	Oklahoma City
J W Tucker	Lindsey
H P Wilson	Wynnewood
James A Young	Clinton

GRADY COUNTY

J C Ambrister	Chickasha
H C Antle	Chickasha
W R Barry	Alex
Walter J Baze	Chickasha
Martha J Bledsoe	Chickasha
William L Bonnell	Chickasha
U C Boon	Chickasha
W H Cook	Chickasha
C P Cox	Ninnekah
E L Dawson	Chickasha
D S Downey	Chickasha
L E Emanuel	Chickasha
H M Evans	Rush Springs
J W Finley	Rush Springs
G R Gerard	Chickasha
P J Hampton	Rush Springs
A E Hennings	Tuttle
R R Hume	Minco
A B Leeds	Chickasha
J S Little	Minco
W H Livermore	Chickasha
S O Marrs	Chickasha
Rebecca H Mason	Chickasha
H C Masters	Minco
G M McVey	Verden
C P Mitchell	Chickasha
A W Nunnery	Chickasha
Claude E Putnam	Mescalero

New Mexico

J F Renegar	Tuttle
A C White	Chickasha

GRANT COUNTY

G T Drennan	Pond Creek
Abraham L Hamilton	Manchester
I V Hardy	Medford
E T Keeler	Lamont
E E Lawson	Medford
S A Lively	Wakita
J F Martin	Deer Creek
J Marshall Tucker	Nash

GREER COUNTY

C W Austin	Mangum
G F Border	Mangum
M E Chambers	Reed
W O Dodson	Willow
H W Finley	Vinson
J B Hollis	Mangum
O R Jeter	Mangum
J B Lansden	Granite
J T Lowe	Mangum
Frank H McGregor	Mangum
J S Meredith	Duke
Ney Neel	Mangum
T J Nunnery	Granite

L E Pearson	Mangum
E M Poer	Mangum
C C Shaw	Brinkman

HARMON COUNTY

W G Husband	Hollis
Roy L Pendergraft	Hollis
William T Ray	Gould

HASKELL COUNTY

John Davis	Stigler
Emmett Johnson	Kinta
R E Jones	Stigler
James W McDonald	Hoyt
R F Terrell	Stigler
T B Turner	Stigler
N K Williams	McCurtain

HUGHES COUNTY

W D Atkins	Holdenville
J A Bentley	Dustin
W B Bentley	Calvin
W A Bullock	Holdenville
A M Butts	Holdenville
A L Davenport	Holdenville
G W Diggs	Wetumka
T B Felix	Holdenville
L J George	Stewart
Samuel H Hamilton	Non
C A Hicks	Wetumka
H A Howell	Holdenville
J N Johnson*	Atwood
L M Lett	Dustin
C C Martin	Calvin
D Y McCary	Holdenville
P E Mitchell	Wetumka
R D Morris	Stewart
J F Musser	Calvin
C E Parker	Dustin
J D Scott	Holdenville
W L Taylor	Gertie
Charles S Wallace	Holdenville
Francis P Wiggins	Wetumka

JACKSON COUNTY

Edward A Abernathy	Altus
R F Brown	Altus
E S Crowe	Olustee
Raymond H Fox	Altus
E F Garlington	Altus
T H Hardin	Elmer
J B Hix	Altus
E W Mabry	Altus
R H Mayes	Duke
L H McConnell	Altus
J S McFadin	Altus
W H Price	Eldorado
W P Rudell	Altus
C G Spears	Altus
D O Spencer	Headrick
H R Taylor	Fort Apache, Ariz.
R Z Taylor	Blair

JEFFERSON COUNTY

W T Androskosky	Ryan
W M Browning	Waurika
D B Collins	Waurika
J I Derr	Waurika
F M Edwards	Ringling
C M Maupin	Waurika
W. T. Nunn	Terral
W R Strasser	Ryan
L L Wade	Ryan
J W Watson	Ryan

*deceased

JOHNSON COUNTY

Guy Clark	Waupanucka
J T Looney	Tishomingo
C B Murphy	Mannsville

KAY COUNTY

C W Arrendell	Ponca City
C J Barker	Kew City
G L Berry	Blackwell
Charles L Blanks	Ponca City
H S Browne	Ponca City
Merl Clift	Blackwell
Ira K Cummings	Ponca City
P A Edwards	Nardin
R B Gibson	Ponca City
H O Gowey	Newkirk
J W Green	Kaw City
A R Hancock	Tonkawa
A R Havens	Blackwell
J C Hawkins	Blackwell
A L Hazen	Newkirk
Lawson Hughes	Tonkawa
J A Jones	Tonkawa
W M Leslie	Blackwell
W A Lockwood	Ponca City
Allen Lowery	Blackwell
E O Martin	Three Sands
William N McClurkin	Ponca City
S S McCullough	Braman
Thomas McElroy	Ponca City
R B McKinney	Tonkawa
D W Miller	Blackwell
George H Niemann	Ponca City
C E Northcutt	Ponca City
A S Nuckols	Ponca City
A S Risser	Blackwell
W A T Robertson	Ponca City
H C Schenck	Mt Vernon Mo
H M Stricklen	Tonkawa
A C Syfert	Blackwell
L C Vance	Ponca City
E E Waggoner	Tonkawa
J C Wagner	Ponca City
I D Walker	Blackwell
J W Werner	Newkirk
Mansford S White	Blackwell
J T B Widney	Kaw City
J C Woll	Tonkawa

KINGFISHER COUNTY

F S Bobbitt	Cashion
E R Cavett	Loyal
A Dixon	Hennessey
Charles W Fisk	Kingfisher
C O Gose	Hennessey
A O Meredith	Kingfisher
J A Overstreet*	Kingfisher
John W Pendleton	Kingfisher
Newton Rector	Hennessey
Frank Scott	Kingfisher
Benjamin I Townsend	Hennessey
Ira H Vincent	Dover

KIOWA COUNTY

J L Adams	Hobart
J D Ballard	Mountain View
J M Bonham	Hobart
J R Bryce	Snyder
A T Dobson	Hobart
Melvin Gray	Mountain View
J T Hamilton	Snyder
A H Hathaway	Mountain View
E B Hibbetts	Roosevelt
J A Land	Lone Wolf
H C Lloyd	Hobart

F Frank Martin	Roosevelt
William McIlwain	Lone Wolf
E P Miles	Hobart
J H Moore	Hobart
J A Muller	Snyder
John R Reid	Hobart
J M Ritter	Roosevelt
F E Walker	Lone Wolf
Barton H Watkins	Gotebo
T L Willis	Hobart
J D Winter	Hobart

LATIMER COUNTY

A C Byars	Hydro
E L Evins	Wilburton
E B Hamilton	Wilburton
J M Harris	Wilburton
T L Henry	Wilburton
C R Morrison	Nooksack, Washington
R L Rich	Red Oak

LEFLORE COUNTY

J B Beckett	Spiro
G R Booth	Leflore
J S Callahan	Heavener
E L Collins	Panama
S C Dean	Howe
E N Fair	Heavener
W C Gilliam	Spiro
I T Harbour	Cowlington
Harrell Hardy	Poteau
J J Hardy	Poteau
A G Hunt	Bokoshe
L D Jones	Talihina
W F Lunsford	Poteau
W Z McClain	Heavener
Robert W Minor	Williams
A M Mixon	Spiro
Robert M Shepard	Talihina
Edgar E Shippey	Wister
W L Stephenson	Heavener
G E Watkins	Stapp
J B Wear	Poteau
B D Woodson*	Poteau
Earl Woodson	Poteau
R L Wright	Talihina

LINCOLN COUNTY

J W Adams	Chandler
J E Anderson	Agra
W D Baird	Stroud
F C Brown	Sparks
R A Brown	Prague
William H Davis	Chandler
F B Erwin	Wellston
P F Erwin	Wellston
J O Glenn	Stroud
E E Goodrich	Carney
J M Hancock	Chandler
R H Hannah	Prague
A M Marshall	Chandler
J A Martin	Davenport
C M Morgan	Chandler
Levi Murray	Wellston
W G Nash	Sparks
U E Nickell	Davenport
G L Wiles	Stroud

LOGAN COUNTY

C B Barker	Guthrie
E O Barker	Guthrie
Pauline Barker	Guthrie
J O Butler	Crescent
A G T Childers	Mulhall
P B Gardner	Marshall

*deceased

Dan Gray	Guthrie
L A Hahn	Guthrie
C B Hill	Guthrie
H W Larkin	Guthrie
J L Melvin	Guthrie
William C Miller	Guthrie
C S Petty	Guthrie
L H Ritzhaupt	Guthrie
J E Souter	Guthrie
F E Trigg	Guthrie
A A West	Guthrie

MAJOR COUNTY

John V Anderson	Fairview
Elsie Specht	Fairview

MARSHALL COUNTY

T A Blaylock	Madill
William H Ford	Kingston
John I Gaston	Madill
W D Haynie	Kingston
J L Holland	Madill
J H Logan	Lebanon
H L Rappolee	Madill
P F Robinson	Madill
O E Welborn	Kingston

MAYES COUNTY

Sylba Adams	Pryor
W C Bryant	Chouteau
W P Couch	Spavinaw
J E Hollingsworth	Strang
John D Leonard	203 Metropolitan Bldg Muskogee

J L Mitchell	Pryor
B L Morrow	Salina
E L Pierce	Pryor
Carl Puckett	State Capitol Oklahoma City

Ivadel Rogers	Pryor
L C White	Adair

McCLAIN COUNTY

O O Dawson	Wayne
I N Kolb	Blanchard
W C McCurdy	Purcell
W B Slover	Blanchard
J. W. West*	Purcell

McCURTAIN COUNTY

N L Barker	Broken Bow
Eugene Baylis	Idabel
A W Clarkson	Valliant
R C Farrier	Idabel
J G Hamilton	Clebit
W G Hancock	Alikchi
C R Huckabay	Valliant
Edwin A Kelleam	Garvin
W H McBrayer	Haworth
C T McDonald	Idabel
Benjamin F Moreland	Shults
J T Moreland	Idabel
W A Moreland	Idabel
R H Sherrill	Broken Bow
J M Thompson	Broken Bow
R D Williams	Idabel
N D Woods	Garvin

McINTOSH COUNTY

Dyton Bennett	Texanna
G W Graves	Brownfield Texas
L I Jacobs	Vivian
N P Lee	Checotah
D E Little	Eufaula

*deceased

J H McCulloch	Checotah
A L Mobly	USVB Hosp 90
Muskogee	
A J Pope	McAllen, Texas
B F Rushing	Hanna
F L Smith	Fame
William A Tolleson	Eufaula
G W West	Eufaula

MURRAY COUNTY

Paul V Annadown	Sulphur
Howson C Bailey	Sulphur
John E Bailey	Sulphur
A P Brown	Davis
I N Brown	Davis
R Dunn	Davis
J C Luster	Davis
P S Mitchell	Sulphur
H A Moore	Millcreek
W H Mytinger	Sulphur
W H Powell	Ponca City
A S Riddle	Sulphur
G W Slover	Sulphur
John T Slover*	Sulphur
J T Wharton	Sulphur

MUSKOGEE COUNTY

S G Hamm	Haskell
J I Hollingsworth	Stroud
O E Howell	Oktaha
W R Joblin	Porter
John E Lee	Haskell
S W Minor	Boynton
P P Nesbitt	Palace Bldg Tulsa
W E Pearce	Boynton
T T Shakkelford	Haskell
J W Sosbee	Gore

MUSKOGEE

H T Ballantine	Surety Bldg
W D Berry	Barnes Bldg
J L Blakemore	Barnes Bldg
C E DeGroot	Equity Bldg
R N Donnell	Raymond Bldg
K M Dwight	808 No C St
A N Earnest	Barnes Bldg
Albert W Everly	Equity Bldg
Finis W Ewing	Surety Bldg
F B Fite	Barnes Bldg
William P Fite	Barnes Bldg
W E Floyd	Equity Bldg
S J Fryer	Surety Bldg
C M Fullenwider	Barnes Bldg
A W Harris	Surety Bldg
James G Harris	Commercial Bldg
Charles W Heitzman	Barnes Bldg
R Nowlin Holcombe	Surety Bldg
F S King	Surety Bldg
O C Klass	Surety Bldg
S E Mitchell	USVB Hosp 90
Charles P Murphy	USVB Hosp 90
Shade D Neely	Barnes Bldg
James T Nichols	Equity Bldg
I B Oldham	Surety Bldg
J G Rafter	Metropolitan Bldg
John Reynolds	1st Natl Bank Bldg
C V Rice	Barnes Bldg
H C Rogers	Manhattan Bldg
H A Scott	Manhattan Bldg
G W Stewart	Equity Bldg
H Stites	USVB Hosp 90
A L Stocks	Barnes Bldg
Claude A Thompson	USVB Hosp 90

*deceased

Milton K Thompson	Surety Bldg
W T Tilly	Barnes Bldg
J S Vittum	Barnes Bldg
F L Walton	Surety Bldg
F E Warterfield	Commercial Bldg
Fred J Wilkiemeyer	Barnes Bldg
Charles E White	Surety Bldg
J Hutchings White	Surety Bldg
I C Wolfe	Barnes Bldg

NOBLE COUNTY

Robert A Cavitt	Morrison
D L Kuntz	Perry
Harry McQuown	Red Rock
Benjamin A Owen	Perry
L D Stewart	Perry

NOWATA COUNTY

Edward F Collins	Nowata
John R Collins	Nowata
Fred R Dolson	Nowata
David M Lawson	Nowata
S P Roberts	Alluwe
M B Scott	Delaware
John P Sudderth	Nowata
George A Waters *	Lenapah

OKFUSKEE COUNTY

Allen C Adams	Weleetka
C M Bloss	Okemah
C C Bombarger	Paden
A M Chambers	Weleetka
C M Cochran	Okemah
W H Davis	Castle
W C Griffith	Weleetka
W P Jenkins	Beardon
J A Kennedy	Okemah
R Keyes	Okemah
A C Lucas	Castle
Roy G Melinder	Newkirk
L A Nye	Okemah
J M Pemberton	Okemah
J C Pitchford	Cromwell
J R Preston	Weleetka
T R Preston	Weleetka
J S Rollins	Paden
L J Spickard	Okemah
A J Stephenson	Okemah
H Wesley Yeats	Okemah

OKLAHOMA COUNTY

B A Credille	2712 Fenton Rd
	Flint Michigan
Virgil Daugherty	Gori, Abyssini
	N E Africa
Thomas H Flesher	Edmond
Karl Haas	Harrah
James I Lyon	Edmond
E F Milligan	Geary
Arthur M Ruhl	Edmond
S N Stone	Edmond

OKLAHOMA CITY

J M Alford	Medical Arts Bldg
Edward P Allen	M A Bldg
Lelia E Andrews	M A Bldg
William H Bailey	301 W 12 St
Ray M Balyeat	M A Bldg
Charles E Barker	M A Bldg
C E Bates	Elks Club Bldg
C N Berry	M A Bldg
M R Beyer	3007 Classen Blvd
James G Binkley	M A Bldg
C D Blachly	M A Bldg

Lucile S Blachly	1304 E 17 St
A L Blesh	301 W 12 St
Nathan Boggs	First Natl Bldg
Floyd Bolend	M A Bldg
Rex Bolend	M A Bldg
George L Borecky	Colcord Bldg
H C Bradley	American Bldg
Austin I Brown	M A Bldg
Thomas A Buchanan	American Bldg
Albert Cates	M A Bldg
J J Caviness	M A Bldg
A B Chase	Colcord Bldg
H H Cloudman	M A Bldg
Cyril E Clymer	M A Bldg
A J Coley	M A Bldg
Paul H Crawford	M A Bldg
James Culbertson	Maud
S R Cunningham	M A Bldg
Charles E Davis	M A Bldg
Edward F Davis	M A Bldg
Francis A DeMand	Colcord Bldg
Walter H Dersch	Shops Bldg
Green K Dickson	M A Bldg
W E Dixon	First Natl Bldg
R O Early	M A Bldg
E G Earnhart	M A Bldg
William E Eastland	M A Bldg
R T Edwards	First Natl Bldg
J B Eskridge Jr	M A Bldg
Edmond S Ferguson	M A Bldg
C J Fishman	132 W 4 St
L B Foster	Liberty Bldg.
W A Fowler	Woodmen, Colorado
S E Frierson	M A Bldg
Fred F Fulton	American Bldg
George Fulton	American Bldg
E Goldfain	Elks Club Bldg
M S Gregory	M A Bldg
Austin L Guthrie	M A Bldg
Clark H Hall	First Natl Bldg
J E Harbison	Colcord Bldg
Paul E Haskett	First Natl Bldg
J A Hatchett	M A Bldg
Basil A Hayes	M A Bldg
John E Heatley	M A Bldg
Fred B Hicks	American Bldg
G W Hinchee	1415 W 34 St
A C Hirshfield	M A Bldg
J R Holliday	M A Bldg
J J Hoover	203 City Hall
R M Howard	M A Bldg
C A Howell	First Natl Bldg
B R Hunter	M A Bldg
George Hunter	2248 W 17 St
Leon Janco	10 W Park Pl
W J Jolly	M A Bldg
Hugh C Jones	M A Bldg
John F Kelly	M A Bldg
Stratton E Kernodle	119 W 5 St
John F Kuhn	M A Bldg
W A Lackey	947 W 13 St
Everett S Lain	M A Bldg
George A LaMotte	Colcord Bldg
William Langsford	First Natl Bldg
Wann Langston	1200 W 12 St
N E Lawson	M A Bldg
Clarence E Lee	Equity Bldg
Elizabeth Lehmer	132 W 4 St
A R Lewis	Shops Bldg
W P Lipscomb	M A Bldg
LeRoy Long	M A Bldg
LeRoy D Long	M A Bldg
Ross D Long	M A Bldg

T R Longmire	322½ No Bway
R E Looney	M A Bldg
R S Love	M A Bldg
Dick Lowry	M A Bldg
Tom Lowry	M A Bldg
R S MacCabe	First Natl Bldg
J C MacDonald	301 W 12 St
J T Martin	M A Bldg
J H Maxwell	M A Bldg
E D McBride	717 No Robinson St
J P McGee	M A Bldg
D D McHenry	M A Bldg
J R McLauchlin	M A Bldg
Phillip M McNeill	M A Bldg
J F Messenbaugh	Colcord Bldg
W H Miles	203 City Hall
Ellis Moore	M A Bldg
L J Moorman	M A Bldg
M V Moth	American Bldg
John Z Mraz	301 W 12 St
R L Murdoch	M A Bldg
Elmer R Musick	M A Bldg
Ralph E Myers	St Anthonys Hosp
N A Newton	M A Bldg
L R Nowlin	Colcord Bldg
K G Parks	Terminal Bldg
D D Paulus	301 W 12 St
Grider Penick	Colcord Bldg
J R Phelan	Security Bldg
A S Phelps	M A Bldg
John S Pine	M A Bldg
J M Postelle	947 W 13 St
Carroll M Pounders	210 West 10th St
John A Reck	Colcord Bldg
Horace Reed	M A Bldg
Lea A Riely	M A Bldg
John W Riley	119 W 5 St
John A Roddy	116 W 5 St
M M Roland	M A Bldg
J B Rolater	Shops Bldg
F E Rosenberger	M A Bldg
W W Rucks	301 W 12 St
R E Runkle	M A Bldg
L M Sackett	American Bldg
A L Salomon	M A Bldg
A J Sands	American Bldg
F M Sanger	Cotton Ex Bldg
Winnie M Sanger	Cotton Ex Bldg
H V L Sapper	M A Bldg
Fred C Sheets	Tradesmens Bldg
Millington Smith	Colcord Bldg
L J Starry	M A Bldg
Marvin E Stout	M A Bldg
S Ernest Strader	American Bldg
S P Strother	M A Bldg
Elijah S Sullivan	M A Bldg
George R Tabor	American Bldg
C B Taylor	M A Bldg
W M Taylor	First Natl Bldg
H Coulter Todd	Colcord Bldg
Cary W Townsend	M A Bldg
Henry H Turner	M A Bldg
E L Underwood	First Natl Bldg
Frank R Vieregg	M A Bldg
Curt von Wedel	Colcord Bldg
Theodore G Wails	M A Bldg
W J Wallace	M A Bldg
J C Warmack	Colcord Bldg
Marshall W Weir	Colcord Bldg
Eva Wells	M A Bldg
Walter W Wells	M A Bldg
W K West	Terminal Bldg
L M Westfall	M A Bldg

Arthur W White	M A Bldg
Arthur A Will	M A Bldg
H M Williams	M A Bldg
W H Williamson	M A Bldg
Ennis C Wilson	M A Bldg
Kenneth J Wilson	M A Bldg
Earl L Yeakel	M A Bldg
Antonio D Young	M A Bldg
A M Young	Colcord Bldg

OKMULGEE COUNTY

Lin Alexander	Okmulgee
R M Alexander	Bryant
J E Bercaw	Okmulgee
I W Bollinger	Henryetta
H D Boswell	Henryetta
Harry E Breese	Henryetta
M D Carnell	Okmulgee
W M Cott	Okmulgee
R J Crabill	Allen
A H Culp	Beggs
J G Edwards	Okmulgee
F S Etter	Beggs
James B Ferguson	Okmulgee
J B Glismann	Okmulgee
T A Hartgraves	Okmulgee
W W Hicks	Okmulgee
F H Hollingsworth	Henryetta
A R Holmes	Henryetta
F A Howell	Okmulgee
W S Hudson	Okmulgee
Albert G Hughey	Dewar
Garnet A Kilpatrick	Henryetta
J O Lowe	Okmulgee
Thomas J Lynch	Okmulgee
J C Matheney	Okmulgee
G Y McKinney	Henryetta
J A Milroy	Okmulgee
J L Miner	Beggs
C M Ming	Okmulgee
W C Mitchener	Okmulgee
Hugh H Monroe	Lindsay
Richard Mooney	Henryetta
J H Neal	Beggs
F L Nelson	Tulsa
J P Nelson	Shulter
J H Powell	Kusa
H L Rains	Okmulgee
D M Randel	Okmulgee
Harvey O Randel	Okmulgee
C A Reese	Okmulgee
J C Rembert	Okmulgee
I W Robertson	Henryetta
J C Robinson	Henryetta
E D Rodda	Okmulgee
F E Sadler	Henryetta
W C Sanderson	Henryetta
Thomas H Shelton	Okmulgee
N N Simpson	Henryetta
W W Stark	Okmulgee
L B Torrance	Okmulgee
W C Vernon	Okmulgee
J O Wails	Morris
V Wallace	Morris
F S Watson	Okmulgee
W S Watson	Okmulgee
L B Windham	Okmulgee

OSAGE COUNTY

W H Aaron	Pawhuska
E T Alexander	Barnsdall
J V Blair	De Noya
Robert J Barritt	Pawhuska
Claude S Chambers, P O Box 806	La Voye, Wyo.

W W Chase	Barnsdall
T J Colley	Hominy
L D Conn	Webb City
C H Day	Pawhuska
B E Dozier	Lyman
F R First	Barnsdall
James J Fraley	Hominy
George I Garrison	Fairfax
G W Goss	Pawhuska
Thomas P Govan	Pawhuska
O R Gregg	Pawhuska
C H Guild	Apperson
J T Gunter	Barnsdall
M Karasek	De Noya
Edward C Keyes	Shidler
W C Klein	Wynona
E N Lipe	Fairfax
C K Logan	Hominy
H B McFarland	Cleveland
I C Morris	Shidler
Q B Neale	Pawhuska
A S Price	Osage
Martin E Rust	Pawhuska
B C Rutherford	Shidler
J G Shoun	Fairfax
Benjamin Skinner	Pawhuska
A J Smith	Pawhuska
L L Smith	Avant
G E Stanbro	Pawhuska
B F Sullivan	Barnsdall
H L Summers	Osage
G I Walker	Hominy
Roscoe Walker	Pawhuska
C W Williams	Pawhuska
Leonard C Williams	Pawhuska
Divonis Worten	Pawhuska

OTTAWA COUNTY

E Albert Aisenstadt	Picher
William H Black	Picher
J O Bradshaw	Welch
R F Cannon	Miami
G W Colvert	Miami
D L Connell	Picher
A M Cooter	Miami
J W Craig	Craig
M M DeArman	Miami
Burleigh E DeTar	Miami
George A DeTar	Miami
William M Dolan	Picher
F Flinn	St. Marys Hospital, Decatur, Ills
J B Hampton	Commerce
R H Harper	Afton
J C Jacobs	Miami
J S Jacoby	Commerce
J B Lightfoot	Miami
E D Mabry	Hockerville
Charles McCallum	Quapaw
Charles A McClelland	Miami
G P McNaughton	Miami
H K Miller	Fairland
E E Nunnery	Miami
F M O'Kelly	Picher
I Phillips	Picher
G Pinnell	Miami
B W Ralston	Cardin
Richard Russell	Picher
W A Sibley	Cardin
Ira Smith	Commerce
William B Smith	Miami
G W Taylor	Cardin
L W Troutt	Afton
G O Webb	Cardin
J P Williams	Picher

M P Willis	Commerce
F L Wormington	Miami
W S Woodford	Douhat

PAWNEE COUNTY

W E Arnold	Jennings
C W Ballaine	Cleveland
C A Beeler	Maramec
C E Beitmen	Skeedee
D J Herrington	Jennings
J A Roberts	Cleveland
E T Robinson	Cleveland

PAYNE COUNTY

J E Adams	Cushing
C H Beach	Glencoe
I A Briggs	Stillwater
James H Cash	Stillwater
L A Cleverdon	Stillwater
W N Davidson	Cushing
Benjamin Davis	Cushing
G H Gillen	Cushing
E M Harris	Cushing
R W Holbrook	Perkins
J Walter Hough	4800 Forbes St, Pittsburgh, Pa
W B Hudson	Yale
Thomas A Love	Ripley
H C Manning	Cushing
John A Martin	Cushing
L A Mitchell	Stillwater
Wade C Mitchell	Yale
E G Newell	Yale
H M Prentiss	Yale
P M Richardson	Cushing
C E Sexton	Stillwater
Ralph E Weller	Electra, Texas
L R Wilhite	Perkins

PITTSBURG COUNTY

V H Barton	McAlester
F J Baum	McAlester
J B Bright	Kiowa
R L Browning	Hartshorne
Charles J Brunson	McAlester
A D Bunn	Savanna
H N Bussey	Pittsburg
A E Carlock	Hartshorne
T S Chapman	McAlester
W A Daniels	No McAlester
J E Davis	McAlester
Joe Dorrough	Haileyville
J W Echols	McAlester
L E Gee	Savanna
A Griffith	McAlester
J O Grubbs	No McAlester
W P Hailey	Haileyville
Charles T Harris	Kiowa
Ellen Hedrick	Mansfield, Ark
W K Hudson	Hartshorne
James C Johnston	McAlester
George A Kilpatrick	McAlester
L C Kuyrkendall	McAlester
W P Lewallen	Canadian
T H McCarley	McAlester
C A McMehen	McAlester
Frank A Miller	Amarillo Texas
J A Munn	McAlester
R A Munn	McAlester
T T Norris	Krebs
J F Park	McAlester
Charles M Pearce	McAlester
R K Pemberton	McAlester
W G Ramsay	Quinton
O W Rice	McAlester
W W Sames	Hartshorne

J C Schlicht	No	McAlester
Graham Street		McAlester
Will C Wait		McAlester
F L Watson		McAlester
A J Welch		McAlester
Clyde O Williams		MsAlester
L S Willour		McAlester
McClellan Wilson		McAlester

PONTOTOC COUNTY

B W Berninger*	Allen
N B Breckenridge	Merida, Yucatan, Mexico
J G Breco	Ada
Catherine Brydia	Ada
S L Burns	Maxwell
R T Castleberry	Ada
J R Craig	Ada
Isham L Cummings	Ada
B B Dawson	Ada
W D Faust	Ada
T E Fuller, 1129 1-2 W Grand St.	Okla City
J B Hamer	Roff
J L Jeffress	Ada
Wilson H Lane	Ada
E F Lewis	Ada
Miles L Lewis	Ada
Samuel A McKeel	Ada
M C McNew	Ada
H D Meredith	Ada
C F Needham	Ada
L M Overton	Ada
S M Richey	Francis
S P Ross	Ada
J A Rutledge	Ada
Alfred R Sugg	Ada
M M Webster	Ada
H F Williams	Stonewall

POTAWATOMIE COUNTY

Robert M Anderson	Shawnee
G H Applewhite	Shawnee
McKenzie A Baker	Shawnee
W A Ball	Wanette
George S Baxter	Shawnee
Walter C Bradford	Shawnee
James M Byrum	Shawnee
H G Campbell	Seminole
F LeRoy Carson	Shawnee
G R Connally	Tribbey
U S Cordell	Macomb
J E Cullum	Earlsboro
A J Enlow	Asher
J L Fortson	Tecumseh
Melvin Fry	Shawnee
William M Gallaher	Shawnee
E J Gray	Tecumseh
John E Hughes	Shawnee
R C Kaylor	McLoud
J W Marshall	Shawnee
William S Martin	Wewoka
Alonzo C McFarling	Shawnee
W N McGee	McAllen, Tex.
J Blair Points	Luther
Edgar E Rice	Shawnee
Edgar Eugene Rice	Shawnee
Edward A Rowland	Kings Park, L I, N Y
Tazwell D Rowland	Shawnee
J H Royster	Wanette
Thomas C Sanders	Shawnee
John H Scott	Shawnee
Jacob M Stooksbury	Shawnee
James H Turner, Kings Co Hosp	Brooklyn, N Y
Howard A Wagner	Shawnee
John A Walker	Shawnee

*deceased

Joseph E Walker	Shawnee
A J Williams	McLoud
Alpha McA Williams	Shawnee

PUSHMATAHA COUNTY

Ernest Ball	Sulphur
J A Burnett	Dunbar
B M Huckabay	Antlers
H C Johnson	Antlers
J S Lawson	Clayton

ROGERS COUNTY

F A Anderson	Claremore
A M Arnold	Claremore
Caroline Bassman	Claremore
J C Bushyhead	Claremore
W F Hays	Claremore
L H Henley	Claremore
W A Howard	Chelsea
K D Jennings	Chelsea
W S Mason	Claremore
Melvin T Means	Hosp Sta No 1

Fort Sam Houston Texas

R C Meloy	Claremore
W P Mills	Claremore
J C Smith	Catoosa
J M Stemmons	Oologah
J C Taylor	Chelsea

ROGER MILLS COUNTY

B M Ballenger	Strong City
W S Cary	Rankin
J N Cross	Cheyenne

SEMINOLE COUNTY

W R Black	Seminole
W L Knight	Wewoka
James B Reynolds	Cromwell
Guy B Van Sandt	Wewoka
A A Walker	Wewoka

SEQUOYAH COUNTY

E P Greene	Sallisaw
S B Jones	Sallisaw
J A Morrow	Sallisaw
J C Rumley	Vian
T F Wood	Sallisaw

STEPHENS COUNTY

J A Adams	Alma
J P Bartley	Duncan
J R Brewer	Doyle
B H Burnett	Duncan
C T Caraker	Duncan
Jos B Carmichael	Duncan
C P Chumley	Comanche
H A Conger	Duncan
S S Garrett	Loco
P B Hall	Marlow
C M Harrison	Comanche
W S Ivy	Duncan
F M Johnson	Loco
J H Linzy	Comanche
D Long	Duncan
A R Mavity	Marlow
A M McMahan	Duncan
J W Moore	Tonkawa
J Arthur Mullins	Marlow
J W Nieweg	Duncan
John D Pate	Duncan
Charles C Pruitt	Comanche
S A Rice	Velma
R L Russell	Marlow
E B Thomasson	Duncan
George H Wallace	Duncan

A J Weedn Duncan
S H Williamson Duncan

TEXAS COUNTY

R B Hayes Guymon
William H Langston Guymon
Daniel S Lee Guymon
William J Risen Hooker

TILLMAN COUNTY

C Curtis Allen Frederick
J E Arrington Frederick
Otis G Bacon Frederick
J E Childers Tipton
J W Collier Tipton
G A Comp Manitou
William W Davis Davidson
Roy L Fisher Frederick
W C Foshee Grandfield
W A Fuqua Grandfield
H C Harris Grandfield
Milo M MacKeller Loveland
J D Osborn Jr Frederick
Fred G Priestley Frederick
J C Reynolds Frederick
J E Smith Denton Texas
T F Spurgeon Frederick
H H Wilson Frederick
R E Wilson Davidson
Harper Wright Grandfield

TULSA COUNTY

T P Allison Sand Springs
James M Buchanan West Tulsa
C E Calhoun Sand Springs
L H Carleton Henry Ford Hosp
Detroit Michigan

B J Davis Sand Springs
Herman Fagan Skiatook
M J Ferguson 5 de Mayo No 5
Despacho No 4 Mexico D F
Onis Franklin Broken Arrow
Bennett Graff Red Fork
F S Halm Sand Springs
Bunn Harris Jenks
V D Herrington Keystone
H L Hille Collinsville
B H Humphrey Sperry
Austin Hutchison Bixby
B W McLean Jenks
John C Perry Sand Springs
A W Schoenleber 26 Broadway

New York N Y

Harry P Ward Leonard
R A Webb Skiatook
F M Wilks Collinsville
C W Young Cleveland

TULSA

V K Allen Palace Bldg
C M Ament Commercial Bldg
Walter L Anders New Daniel Bldg
Johnson R Anderson Commerce Bldg
R Q Atchley Palace Bldg
Paul N Atkins Wright Lab Bldg
J H Barham New Daniel Bldg
D A Beard Palace Bldg
W W Beesley Haver Bldg
J Walter Beyer Palace Bldg
J Jeff Billington Mayo Bldg
J Fred Bolton Atlas Bldg
Fred M Boso New Daniel Bldg
C E Bradley Commercial Bldg
James C Braswell Mayo Bldg
J C Brogden Mayo Bldg
J E Brookshire Robinson Bldg

H S Browne Palace Bldg
William J Bryan Jr Palace Bldg
J P Butcher Robinson Bldg
Hubert W Callahan Palace Bldg
P N Charbonnett New Wright Bldg
H C Childs Mayo Bldg
J W Childs Mayo Bldg
Fred S Clinton World Bldg
George H Clutow Masonic Bldg
E Ledley Cohenour Bliss Bldg
W Albert Cook Palace Bldg
T B Coulter Haver Bldg
Fred Y Cronk Daniel Bldg
Albert C Daves Security Bldg
W A Dean Masonic Temple
Nevin J Dieffenbach 708 So Cincinnati
C A Dillon New Daniel Bldg
Roy W Dunlap Palace Bldg
James E Dwyer Palace Bldg
A V Emerson Atlas Bldg
Hugh J Evans 708 So Cincinnati
H Lee Farris Oklahoma Hosp
R C Farris 1702 So. Quannah
Roland A Felt Commercial Bldg
O A Flanagan Haver Bldg
George W Flinn 44 No Yorktown St
H W Ford Commercial Bldg
Garabed A Z Garabedian 615 So Cheyenne St
D L Garrett 604 So Cincinnati Sa
Paul C Geissler 2005 East 2 St
Fred A Glass Mayo Bldg
Samuel Goodman Roberts Bldg
J Franklin Gorrell Commercial Bldg
Ross Grosshart New Wright Bldg
Chas H Haralson New Wright Bldg
G E Hartshorne New Daniel Bldg
Thomas M Haskins Richard Bldg
E A Hawks Palace Bldg
S DeZell Hawley 417 West 6 St
C T Hendershot Orpheum Bldg
F W Henderson Richard Bldg
Marvin D Henley Palace Bldg
C C Hoke Petroleum Bldg
J S Hooper Security Bank Bldg
M A Houser Commercial Bldg
W A Huber New Daniel Bldg
L T Jackson 212½ So Main St
Charles D Johnson Atlas Bldg
H B Justice 608 Commercial Bldg
M C Kimball 101½ West 4 St
S H Kimmons 725 So Cincinnati
J K Lee Atlas Bldg
William G Lemmon New Daniel Bldg
E M Lewis New Daniel Bldg
Morris B Lhevine Atlas Bldg
C P Linn Palace Bldg
D M Macdonald 114 East 6 St
P A Mangan Mayo Bldg
Bertha Margolin 1527 So Norfolk St
W Lee Masters Palace Bldg
N W Mayginnnes* 304 E 19 St
P H Mayginnnes Bliss Bldg
William F McAnally P O Box 2045
R McGill Security Bldg
Malcolm McKellar 604 So Cincinnati
George H Miller Atlas Bldg
Silas S Mohrman Palace Bldg
H D Murdock Wright Bldg
P G Murray Daniel Bldg
S Murray Haver Bldg
F C Myers Richard Bldg
J J Nabhan Commerce Bldg

*deceased

R G Sherwood	Masonic Temple
George Norman	2543 E Admiral St
L C Northrup	Masonic Bldg
C D F O'Hern	New Daniel Bldg
George R Osborn	Daniel Bldg
James C Peden	Security Bldg
J T Perry	Bliss Bldg
M L Perry	Bliss Bldg
A W Pigford	Palace Bldg
L C Presson	Palace Bldg
Harry P Price	Commerce Bldg
Horace T Price	Security Bank Bldg
C L Reeder	Atlas Bldg
K C Reese	615 So Cheyenne St
J L Reynolds	Mayo Bldg
J M Reynolds	Atlas Bldg
R E Lee Rhodes	Daniel Bldg
T R Roberts	2647 East 7 St
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A H Bungardt	Cordell
C Doler	Foss
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J H Harms	Cordell
J Paul Jones	Sentinel
A S Neal	Cordell
A M Sherburne	Cordell
A A Stoll	Foss
C M Tracy	Sentinel
Edward S Weaver	Dill
A Weber	Bessie

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Chief Causes of Deaths of Infants in Oklahoma:

Enteritis under 2 years, for 1924, 790; for 1925, 893.

Premature Birth and injury at birth, 1924, 1068; for 1925, 1175.

Bronchopneumonia, 1924, 497; 1925, 929.

Diseases due to early infancy, 1924, 559; 1925, 620.

Deaths have been reported much better in 1925 than in 1924—that may account for the apparent increase. But even if there is no increase, too many babies died in 1924.

For the benefit of the busy general practitioner who may be having trouble with summer diarrhea and infant feeding in general, there is a very meaty little volume just revised, by Julius H. Hess (F. A. Davis Company, Philadelphia). It contains less than 500 pages but everything on the subject seems to be there. Breast feeding, the mother's diet, feeding the premature

or weakly infant, simple sweet milk formulae; how to make lactic acid milk and how much to give and what for; the treatment of various sorts of diarrhea, chapters on athrepsia, anhydremia, infections, celiac disease, rickets, scurvy, and acidosis. It is also replete with tables of caloric values, percentage composition of foods, etc.

For the physician who is planning to specialize in pediatrics there is nothing better than Abt's Pediatrics. The Eighth Volume is just out (Saunders). The whole set costs less than one funeral.

Perhaps you would like to re-read your State Medical Journal for July, 1925. It's worth while.

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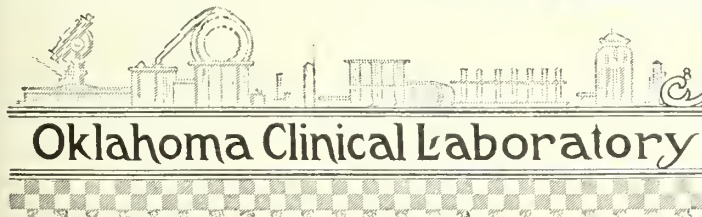
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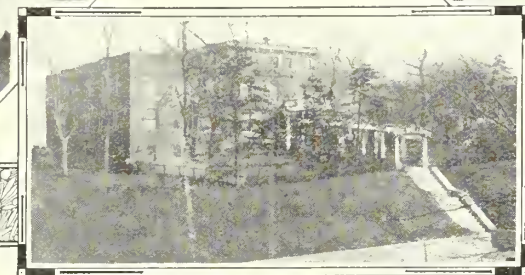
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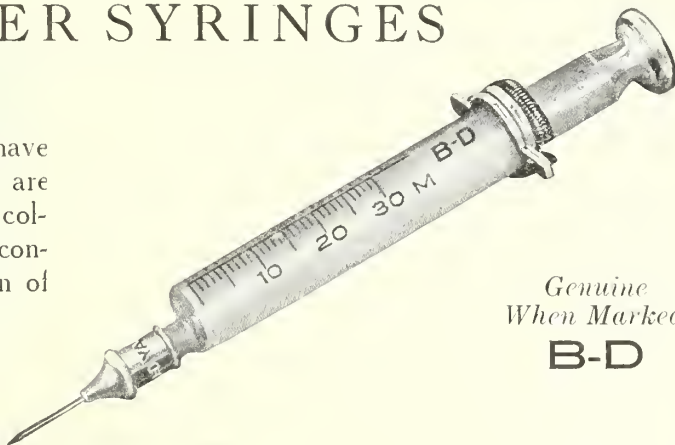
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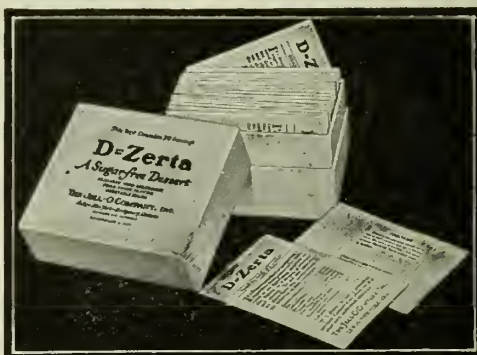
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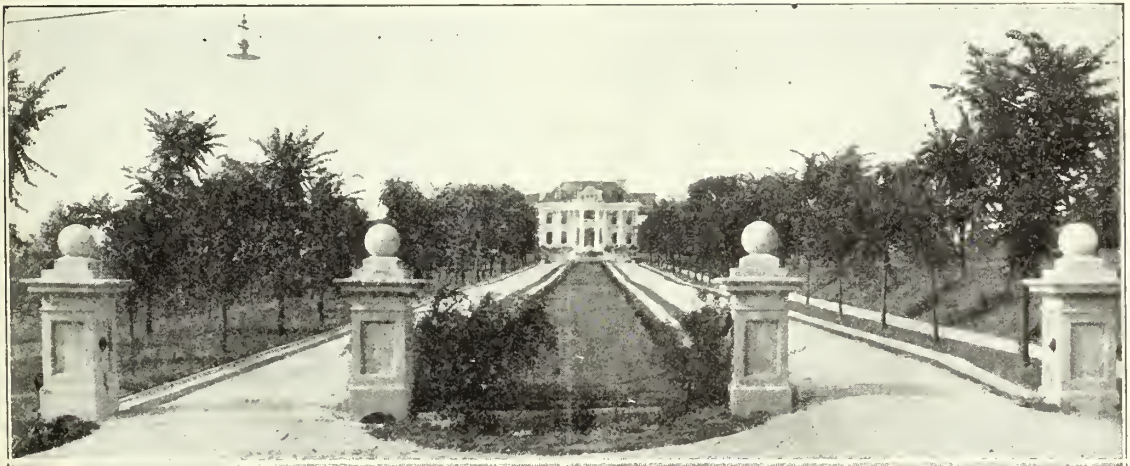
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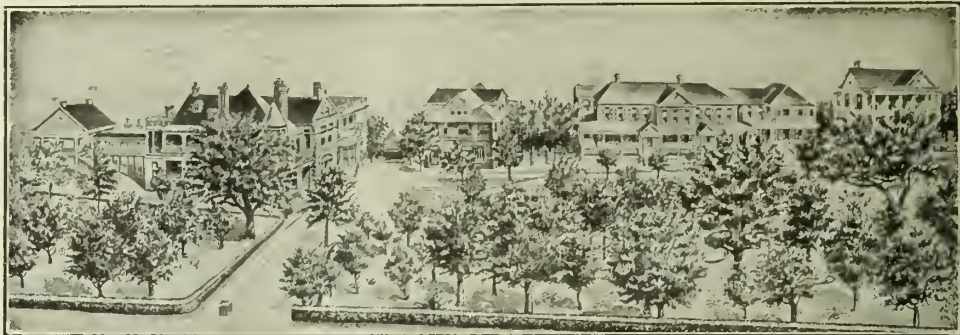
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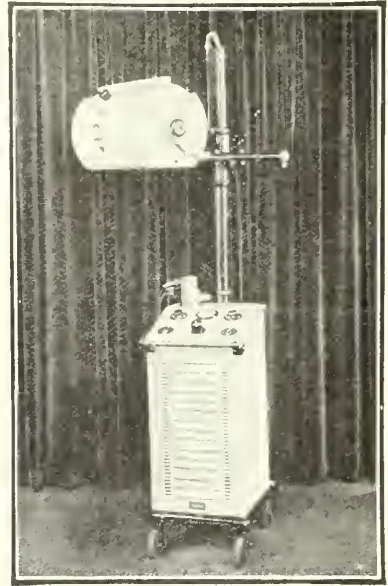
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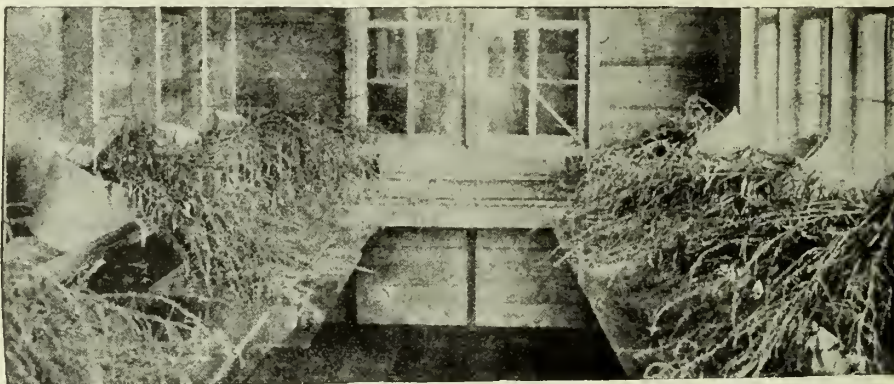
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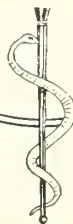
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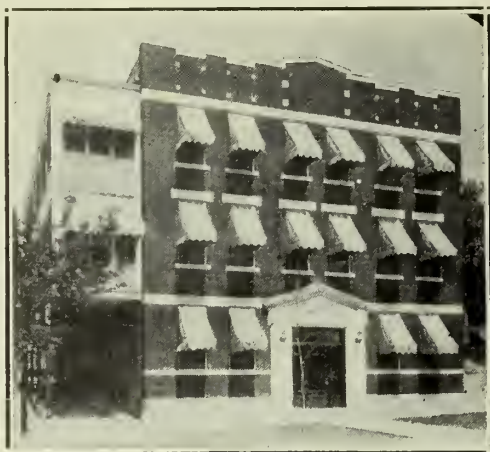
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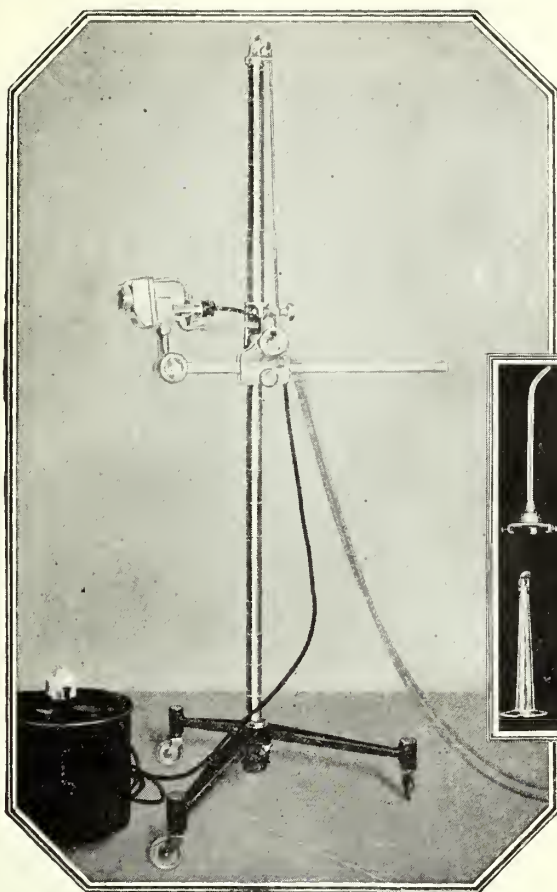
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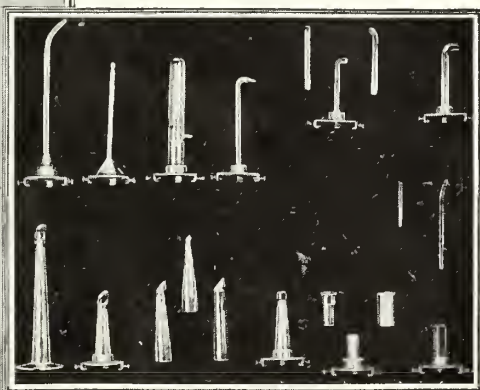
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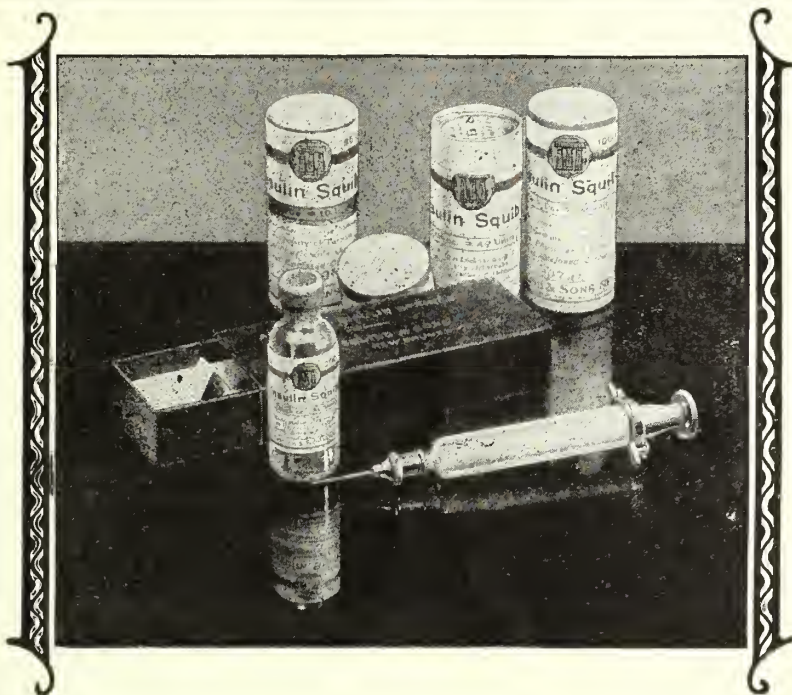
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THE JOURNAL

OF THE

OKLAHOMA STATE MEDICAL ASSOCIATION

VOLUME XIX

MUSKOGEE, OKLA., AUGUST, 1926

NUMBER 8

THE TREATMENT OF SEVERE DIARRHEAS AND ANHYDREMIA*

C. W. ARRENDELL, M.D.
PONCA CITY.

Diarrhea occurs as a symptom in the course of many different conditions. It should never be considered as an entity, but on the contrary, should only have its place in the clinical pictures that result from the operation of various causes. Therefore, a thorough study and classification of the causes and effects of entities accompanied by diarrhea should sponsor more intelligent treatment, and finally, better end results. The classification of the conditions accompanied by diarrhea with a study of the consequences resulting therefrom as taught by Marriott, seems to be the most outstanding, at least, from a practical standpoint. Marriott divides the causes responsible for diarrheas into four main classes: the first, caused by parenteral infections, or infections outside the intestinal tract, such as pneumonia, otitis media, pyelitis etc.; the second type being due to infections in the intestinal tract, or enteral infections, (a) due to saprophytic organisms, and (b) due to specific pathogenic organisms, namely, bacillary dysentery and typhoid; the third being diarrhea due to underfeeding, or starvation; and the fourth type resulting from overfeeding, improper food or irritating drugs.

As a result of these causes, there are set up in the intestinal tract, certain abnormal conditions which explain the frequent occurrence of diarrhea in infancy. Parenteral infections, and, in fact, fever from any cause, will bring about both a diminished amount of those normal secretions of the intestinal tract which have an antiseptic action, and also a lowering of the functional capacity for digestion and absorption. This explains the gastro-intestinal disturbances, including diarrhea,

which occur in the course of various infections. However, the fever is usually out of proportion to the gastro-intestinal disturbance and a careful examination will disclose some focus of parenteral infection. As Marriott emphasizes, in any case of diarrhea accompanied by fever, the first step should be to search for any possible focus of infection, and this is much more important than changing the type of feeding.

Overheating of the body due to high external temperature or to excessive clothing also causes a depression of the functional activity of the intestinal tract because of the inability of the heat regulating mechanism of the infant to adjust itself. Starvation acts in the same way, and it would be well to emphasize this type, because, after the causes of other types of diarrheas have been eliminated or cured, starvation diarrhea often continues to operate when the caloric requirements of the child are not fulfilled. Proper feeding will prevent and cure starvation diarrhea.

Enteral infection, or dysentery, may result when a suitable culture media is present in the intestinal tract, such as an excess of sugar in food. Bacteria live and multiply freely in the intestinal tract when the diet is high in sugar. When sugar undergoes metabolism the end products as eliminated by the bacteria are $C O_2$ and $H^2 O$. This explains the presence of large amounts of gas and water in the stools. Protein does not make a suitable food upon which saprophytic or pathogenic bacteria live, consequently, it becomes very useful in the diet to prevent and cure infections in the digestive tract.

The presence of bacteria in the upper intestinal tract will often cause diarrhea. This condition results when "spoiled" milk is fed in sufficient quantities, when cow's milk formulas too high in "buffer" substance are given, and, in fact, when any food is given that requires too long a time for digestion and absorption. Even proper foods given too often or in too large

*Read before the Section on Obstetrics and Pediatrics, Annual Meeting, Oklahoma State Medical Association, Oklahoma City, June 22, 23, 24, 1926.

quantities will sometimes bring on this result.

A hyper-irritable intestinal tract will result from any of the above conditions, but in addition, a diet too high in fat, resulting in an excess of fatty acids is capable of exciting hyperperistalsis. The indiscreet use of castor oil which is responsible for a great many severe diarrheas is an example of what irritating drugs can do.

From the standpoint of effect of any or all these causes, the most serious consequences of diarrhea are: (1) water loss, (2) starvation, (3) depletion of mineral salts, and (4) toxemia. Of these serious consequences the problem of water loss should receive immediate attention; for when the amount of water eliminated from the body becomes greater than the amount taken in, desiccation of the blood and tissues necessarily results. When any considerable degree of desiccation has occurred, characteristic symptoms become manifest which are directly attributable to the concentration of the blood. To describe this condition more accurately, Marriott uses the term "Anhydremia" — which means blood deprived of water.

It may be said that any infant which becomes sick from any cause is a candidate for anhydremia, and if there is diarrhea of any severity, vomiting for any considerable period of time, or high fever persisting for even a few days, it is certain to develop some degree of anhydremia and this condition often become serious though the intake of fluids is pushed to the limit in the usual manner.

In times past, the causes of diarrheas were little considered, except that the food was usually blamed, and treatment was about the same for all types. It usually consisted of a dose of castor oil followed by starvation for 24 hours. If the diarrhea continued, another dose of oil was given and the baby offered only a very low caloric diet. Consequently, the loss of water from the tissues became more and more extreme and soon the characteristic signs and symptoms of anhydremia were apparent.

Rapid loss of body weight is the first indication of anhydremia and the careful treatment of any case of illness, especially if accompanied by diarrhea, would include weighing at frequent intervals; for any sudden or excessive loss of weight should be followed immediately by active treat-

ment, such as the introduction of enough water to replace that lost incident to the diarrhea, and the use of enough opium to check the active peristalsis. Coincident with this loss of weight the features become sharpened, the eyes are sunken and often fixed in a far-away stare; the fontanelle is depressed, the skin over the body becomes dry and when picked up between the fingers, the folds remain an appreciable interval before flattening out. The lips are dry, parched, and often of a peculiar cherry red color. The mouth is held partly open and the tongue is dry.

Examination of the blood shows that it is thick, does not flow easily, and when centrifuged separates relatively little serum; the protein content is high and the water content low. The volume flow of blood is greatly diminished and the arterioles are constricted, resulting in a characteristic grayish color of the skin. The red blood corpuscles become congested in the capillaries, making the red count in the capillaries higher than that in the venous blood. Leucocytosis of moderate degree is usually present, although the concentration of the blood is often responsible for this.

Fever, though often due to the primary infection, is sometimes due to a disturbance of the heat regulating mechanism as a result of an insufficient amount of water in the body. The output of urine becomes more and more diminished as the water loss continues; albumen, casts, and sugar often mark the profound disturbance of water balance between the tissues and the blood stream. Vomiting also occurs as the result of water loss.

During the course of anhydremia, acidosis, with characteristic deep and labored respirations very often develops and is the result of diminished oxidation of the tissues due to deficient blood circulation. It is not a true ketosis.

In the earlier stages of anhydremia there is usually extreme restlessness, but later as the condition progresses, coma intervenes. Convulsions and collapse are liable to occur at this time, and often end the trouble.

Digestion is impaired for the reasons stated above, and attempts to give food seem to aggravate the diarrhea, and thus, in turn, the degree of anhydremia is increased. Even though the baby might continue to live in spite of the anhydremia,

food cannot be utilized because of the low blood volume. It is absolutely necessary that the blood and tissues be replenished with practically the normal amount of water before normal digestion can take place. Also the other symptoms, such as loss of weight, dry skin, grayish color of skin, dry tongue, depressed fontanelle, acidosis, restlessness or coma, fever and vomiting quickly disappear when a sufficient amount of water is given.

It must be emphasized that once the symptoms of anhydremia have appeared it is very difficult to control, as it is often impossible to give enough water by mouth because of vomiting or slow absorption from the intestinal tract. It frequently becomes necessary to introduce it into the body by other means. Normal salt solution given intravenously or subcutaneously is rarely to be used as the amount possible to give does not accomplish any lasting effect. The best method of introducing fluid into the body as popularized by Marriott, is by way of the peritoneal cavity. Large amounts of fluid may be given this way and be rapidly and completely absorbed. The injection is easily given and causes little pain or discomfort. The needle used for the injection should not be very sharp. A suitable size is 19 gauge, which is about the size commonly used for serum injections. With reasonable care there is but little chance of infecting the peritoneum or puncturing the intestine, but a strict aseptic technic, is, of course, essential. If abdominal distension is present, this must first be relieved. The wall of the abdomen is picked up between the fingers and the needle introduced at an angle. The best point for injection is about midway between the umbilicus and symphysis pubis. The solution should be warmed to body temperature and allowed to flow fairly rapidly until the whole abdomen is moderately distended. It is often possible to inject as much as 400 or 500 cc. (1 pint) into a small infant. The injection may be repeated within 5 or 6 hours if the fluid has been taken up by the blood and tissues to restore normal conditions, absorption from the peritoneal cavity becomes much slower. At about the same time the secretion of urine is resumed. The weight becomes almost the same as before the development of the condition. The fluid usually used for intraperitoneal injections in these cases is Ring's solution ($\text{Na Cl } 7.0$ $\text{KCl } 0.1$ Ca Cl_2

0.2 , water to 1000 c.c.) This solution has the advantage of supplying some of the mineral matter lost from the body.

In all severe cases of anhydremia it is advisable to give glucose solution intravenously. The injections may be repeated twice daily or more often. Such injections increase the blood volume and improve the circulation. The glucose supplies a certain amount of food and also acts as a diuretic. Transfusions are also indicated.

It is not always possible to restore the normal water content of the body. In many infants, despite all therapeutic measures, the blood remains concentrated. In such instances a fatal outcome cannot be prevented. In the treatment of anhydremia it is important to realize that it is necessary not only to restore normal conditions, but to maintain them. An infant, after the administration of large amounts of fluid according to the methods described above, may appear well on the road to recovery, and yet, a few hours later may once more lapse into a moribund condition. The treatment must be kept up until the causative factor is no longer operative. An infant suffering from an infection such as dysentery, may develop anhydremia and die as the direct result of the anhydremia. On the other hand, if the anhydremia is properly treated and cured, the infant may ultimately succumb to the infection. A constantly accumulating mass of evidence would lead one to conclude that the administration of large amounts of water is beneficial in acute infections, or diarrheas of any type, irrespective of whether or not anhydremia is present.

SUMMARY

I. The causes of diarrheas are:

1. Parenteral infections.
2. Enteral infections.
3. Starvation, or underfeeding.
4. Overfeeding, improper foods, and irritating drugs.

II. Clinical conditions resulting from these causes are:

1. (a) Diminished amount of those normal secretions which have an antiseptic action.
- (b) Lowering of functional capacity of intestinal tract for digestion and absorption.
2. Suitable culture media for saprophytic or pathogenic bacteria in intestinal tract.

3. Bacteria in upper intestinal tract which is normally sterile.
 4. Hyper-irritable intestinal tract.
- III. Serious consequences of diarrheas are:
1. Water loss or anhydremia.
 2. Starvation.
 3. Depletion of mineral salts.
 4. Toxemia.
- IV. If water loss during diarrhea or any illness without diarrhea becomes extreme, characteristic symptoms of anhydremia develop.
- V. Once anhydremia develops, food cannot be taken or the toxic symptoms relieved until water loss is replenished. The blood volume, and volume flow of blood, must be normal to insure normal metabolism.
- VI. The best method of introducing fluid into the body to relieve anhydremia is by intra-peritoneal injection.

SOME OBSERVATIONS ON BREAST FEEDING*

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TULSA

I do not feel that I need to apologize for my subject. I have nothing new to offer to you. I only want to tell of my experiences with breast feeding, and make a plea for renewed effort to keep our babies on the breast.

Breast nursing is a topic that never grows old for the pediatrician. It is of such vital consequence that never enough will be said about it, nor will its importance decrease in time. It has a prior and forceful claim on the attention of the physician and the presentation of its problems is never unwelcome. The importance of this subject to young mothers, however, has changed from time to time in the past. Only less than a decade ago it was regarded out of fashion for a young mother to nurse her own child. With the advent of numerous proprietary foods flooding the market with miraculous promises to end infant feeding problems — most of these promises made directly to the young mother through the lay press—the days of old fashioned breast nursing were re-

garded gone forever. That was the emancipation of the mother from the drudgery and confinement of nursing her child. As a result of this, breast feeding was neglected to a certain extent. Fortunately the pendulum is swinging back. Due to the teaching and the preaching of the pediatrician, the general profession is awakening to the alarm of the situation. Hence the endeavor in the last few years to keep babies on the breast, and to meet and solve the problems that breast feeding presents.

The situation in our young but healthy state of Oklahoma was very far from being satisfactory. When I first came to Oklahoma some eight years ago, I was greatly appalled by the large number of infants fed on artificial foods, mostly proprietary condensed milks. Not only was there a general lack of knowledge on the part of the laity, but unfortunately, there was a lack of enthusiasm on the part of the family physician in matters of infant feeding. Happily now the average mother is better instructed about her baby and is more willing to nurse it. I attribute this change to the wonderful educational work that the different mothers' clubs are doing in the various parts of the State, and to the splendid help that our Bureau of Maternity and Infancy of the Department of Public Health is giving to the young mothers of our state both before and after the arrival of the baby.

In spite of this awakening, however, occasionally one sees a baby taken off the breast and put on artificial feeding by the physician just because "breast milk did not agree with the baby." Only recently I had occasion to see an infant with severe nutritional disturbance who had been taken off the breast in spite of an over-abundance of breast milk and put on artificial feeding by a physician who told the mother that her own milk was poisoning her child. In our climate, Oklahoma, especially, where during the hot summer months the dangers to the infant are tenfold, and where the dairying industry is relatively in its incipency compared with most older dairying centers of the north and east, it is very important that every physician should have a working knowledge of breast feeding, of peculiarities of the breast, and of nutritional disturbances in the breast fed infant; and should have the patience, enthusiasm and missionary spirit to impart his knowledge to the young motherhood of his locality.

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The only absolute obstacles to breast feeding should be absence of breasts, absence of nipples, or the presence of active tuberculosis in the mother. All the rest of obstacles and contraindications to breast feeding are relative and should be weighed most carefully and intelligently, taking into consideration both the welfare of the mother as well as of the baby before the final step. Insanity and malignancy may often be an absolute necessity to wean a baby. Puerperal sepsis, eclampsia, severe nephritis or acute febrile diseases may be only temporary causes, as well as acute disease of the breast itself, mastitis, fissures of the nipples or inverted nipples. Obstacles on the part of the baby may sometimes be insurmountable, but often by careful attention and patience may be overcome. Harelip and cleft palate, prematurity, congenital weakness, or birth injuries, such as intracranial hemorrhage, may all be corrected by proper measures and the infant kept on the breast or put back to the breast after an interval.

In contrast to the above mentioned absolute and relative contraindications to breast feeding, what are most of the excuses that we encounter in actual practice for weaning a baby? Colic is the most frequent of these excuses:—excessive crying, frequent green stools with curds, lack of proper gain, spitting up or actual vomiting of food and a host of similar evidences of improper digestive functioning, which the mother usually expresses in the term that unfortunately pediatricians too frequently hear in their offices “my milk was poisoning my baby.” Then we have the society obligations of the mother who cannot easily leave her afternoon bridge or tea or evening dance or theatre party to run home to nurse her baby. Then again there is the poor working mother who has to leave her baby in the care of strange hands to earn a livelihood. All these are excuses which can be corrected by one agency or another, so that the baby will not be robbed at the very beginning of his life of his birthright, the breast milk.

Unsatisfactory breast feeding may be explained under two general headings:—too much milk and insufficient milk. Too much milk will invariably lead to over-feeding and then to dyspepsia. The first symptom of over-feeding will be crying which the mother will invariably interpret as hunger, and naturally will nurse longer or more frequently, with the disastrous re-

sults that will follow. I can better explain this point by the following typical case:

Mrs. S. H., Sand Springs, age of mother—17 years—age of baby—6 weeks. Weight 7-7. Birth weight 9-4.

Complaint—excessive crying, day and night, except when given paregoric which has been used for 3 weeks, distention of abdomen, frequent, very small green stools with mucus, almost continuous spitting up of food. Feeding—Breast exclusively every 4 hours for the first 2 weeks; when the crying started, every three hours for the next week, when crying became worse and frequency of stools started. Last 3 weeks patient is nursed irregularly depending on the crying, sometimes as often as every half hour. Advised by relatives and neighbors that she is starving her child and should put him on the bottle. These kind voluntary advisers, however, did not agree as to what to feed the baby. Some favored Eagle Brand, others Horlick's malted milk, still others goat's milk and a few Dryco. Baby was fed in my office and got only one-half oz. Examination of breasts revealed both fully developed and greatly engorged, excellent nipples. By manual expression six ounces of milk were obtained. Baby was promptly put on the four hour schedule, five times a day, three minutes each nursing, and the mother instructed how to care for her breasts. Report two months later—Weight 14-2, gain in two months—six pounds eleven ounces, very happy, does not cry, normal stools, no spitting. Nurses five times a day and is well satisfied.

You must appreciate the difficulty, sometimes the futility of impressing on a young mother the necessary thing to do. This mother was absolutely convinced that she was starving her baby, and that it was necessary to give artificial feeding. She applied to me to find out what food to give, how and when. In the face of this situation to tell her to nurse her child three minutes only and that five times a day, and expect her to follow your instructions is, you must admit, great optimism. Treatment of disturbance caused by too much breast milk is very obvious, but one point should not be overlooked:—*Take proper care of the breasts.*

Insufficiency of milk is a condition that is met with more frequently than over-

feeding. This insufficiency is practically always quantitative, and only rarely qualitative, as formerly was believed. Analysis of the breast milk, therefore, which was formerly practiced so frequently, is now regarded as of no value. A pair of good scales to weigh the baby before and after nursing is of greater value to tell us, if the infant is getting sufficient nourishment or not. The causes of insufficiency of breast milk are varied and depend on the age, physical condition and number of previous lactations of the mother, on the type of the breast, and, most important of all, on whether the baby is nursing vigorously and emptying the breasts or not. Unless the breasts are completely emptied periodically, the amount that the baby will be able to get from them easily will decrease day by day, so that eventually the paradoxical condition with prevail of having so much milk that it will hinder proper nursing. How often we hear a mother say "I had large amounts of milk but it left me in six or eight weeks." The cause of this is the failure to remove the milk that is already formed in the breasts so that new milk will form which it will be easier for the infant to get out. Some babies nurse more vigorously than others, also some breasts are more difficult to yield than others. Individual attention should be paid to each infant and type of breast. The main symptom to make a diagnosis of underfeeding is the stationary weight. Underfed infants, contrary to expectation, do not as a rule cry very much—certainly not as lustily as the infant in pain. Their sleep is better than the sleep of the overfed infant. They may be restless at feeding periods—and want to stay at the breast a long time. Their stools are infrequent, and scanty. The treatment of underfeeding is the proper care of the breasts to improve the yield, and institution of complementary feeding. This feeding very often will be only temporary, till efforts to increase the breast yield are successful.

Perhaps the most gratifying accomplishment in the field of breast nursing of late years has been the success in our efforts to reestablish the breast milk in instances when the infant has been taken off the breast either as a result of prolonged sickness or of ill advice. It has been my good fortune to reestablish the breast milk in a large number of instances, as well as to increase an already existant supply, by a routine which has been successful in over

75 per cent of instances followed. The periods of cessation of nursing have varied from a few days to four months. When explained the situation fully, I have found mothers very willing and anxious to cooperate, in spite of the fact that following this routine means a good deal of work on the part of the mother and takes a good deal of her time. Results have fully justified these mothers' enthusiasm.

The routine is as follows, as explained by instruction slip handed to the mother:-

1. Nurse baby on both breasts at 6-10-2-6-10-2 in the following manner:

- a. Take glass of water just before nursing.
- b. Relax on a couch and put hot applications on both breasts for 2-4 minutes.
- c. Nurse baby on first breast for 5 minutes, then on second breast for 5 minutes, back on first breast for 2 minutes, back on second breast for 2 minutes.
- d. Repeat hot applications on breasts for 2 minutes.
- e. Express by hand all milk from the first breast as instructed.
- f. Alternate sides to start nursing.

2. Give bottle to baby immediately after nursing(for those who are on complementary feeding.)

3. Give baby 2-6 ounces of water between each feeding (depending on age and size.)

4. If baby's bowels do not move once in 24-36 hours, give a soda enema or use glycerine suppository till further instructions.

5. Take your medicine regularly.

6. Eat according to instructions.

7. No eating or drinking between meals except plenty of water and fruit juices.

8. Short period of rest every afternoon and regular hours of sleep.

9. Short walk every day.

10. Do not take cathartics.

Besides these instructions to the mother she is told to come to the office once a day for about a week, immediately after a nursing, when both breasts are emptied with Dr. Abt's electric breast pump and

first few times manual expression practiced, to instruct the mother in this very important procedure and to forcibly empty the breasts of all residual milk. The medicine given to the mother is a bitter tonic. My favorite prescription is Tincture of Nux Vomica, 10 minims in Compound Tincture of Gentian 1 drachm before each meal. This not only improves her appetite but it has its psychic effect on the mother's mind in keeping her enthusiasm. My instructions to the mother as to her diet are not to drink milk or other drinks between meals, and not to make radical changes from the food she was accustomed to take before her pregnancy. I want to emphasize here the great usefulness that Dr. Abt's electric breast pump has shown not only in enabling us to get breast milk in a most sanitary and efficient way for babies who cannot be put directly to the breast, but specially in the care of the breasts, in the correction of fissures and abscesses, in their proper emptying, and in the reestablishment of their function by proper stimulation simulating the infants sucking. Complete emptying of breasts and periodic stimulation of nipples by sucking are the two most important factors in keeping up with the breast milk. The use of galactagogues is not satisfactory and has been mostly abandoned. Diet has little if any influence on the quantity as well as the quality of the breast secretion. Unfortunately there is a prevailing opinion among the laity that "milk makes milk." Hence we see poor mothers already worrying on account of the failure of their milk, take large quantities of food—drinks in rapid succession between meals, using besides milk, malted milk, cocoa, cho-cho, tea and a host of other preparations which serve no other purpose than to upset the mother's normal digestive functions, thus to impair her nutrition and serve the opposite end of reducing her milk instead of increasing it.

In conclusion let me make a plea for more patience and a better understanding in breast feeding problems so that a greater number of babies be given the right start in life with the food that nature intended for them—their mother's breast milk.

METHODS OF TESTING HAY-FEVER AND ASTHMA PATIENTS FOR PROTEIN SENSITIVITY AND THE SELECTION OF CORRECT PROTEINS FOR TREATMENT*

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At present two methods for making skin tests are used, namely, the dermal, or scratch method, and the intra-dermal. Several years ago Walker advocated the scratch method and still uses it exclusively to all others in his work. There are many working in the field of allergy who are following his method. Later Cook began to use the intra-dermal method, and he has continued to use it to the exclusion of the scratch test. Certainly both methods have a place in testing patients for protein sensitivity and neither should be used to the exclusion of the other.

Children and young adults react readily, as a rule, to dermal tests. For this reason it is not so often necessary to use the intra-dermal method as it is in older cases. Patients over thirty-five years of age, who give typical allergic histories, are frequently entirely negative to dermal tests even on repeated testing. These same patients tested by the intra-dermal method often give very definite reactions which are in accord with their histories. Therapeutic results from treatment based on these intra-dermal reactions will usually free the patient from symptoms. The intra-dermal method, however, is a very delicate one, so much care must be used in interpretation as there are many false positive reactions. For one who is not doing allergy as a special line of work the dermal method is, without question, the one of choice.

In testing for protein sensitivity it has been our experience that the protein of all foods, condiments, animal emanations, pollens and miscellaneous substances, such as orris root, silk pyrethrum, etc., should be used routinely, otherwise some important factor will not be found. If after testing, a satisfactory explanation is not found for the allergic condition, or after treatment is instituted, good results are not obtained, re-testing should be done. Re-testing was

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first advocated by Schloss and more recently by Rowe. Both have shown that the skin reactions may immediately disappear after an attack of asthma. For this reason the best time to test an asthmatic patient is just before or at the onset of the asthmatic attack. This does not hold true for pollen hay-fever cases in children and young adults, as good reactions will usually be obtained during or following an attack. We have found a number of cases which were negative to certain proteins on first testing, who proved to be definitely positive on subsequent examinations.

METHOD OF MAKING DERMAL TESTS

The method of making these tests will be described in considerable detail as, although simple unless carefully done, errors of interpretation will often be made. Tests are made in the following manner:

First the site is selected for work. The outer surface of the upper arm or the flexor surface of the forearm and arm, are very convenient areas and are largely used. In babies and small children the arms are very small, so the back is a convenient place.

It is not necessary to cleanse the area selected with alcohol or ether unless the skin is very oily or damp, as the danger of infection is practically nil. A series of scratches are made on the area selected about one-eighth of an inch long and at least one inch apart. For making the scratches some instrument should be used which produces very little trauma, as the desirable scratch is the one in which the least trauma is made, since many skins are very sensitive. In our work a dull Chelation knife is used. It is important that the first skin only is cut, as, if the second layer of skin is pierced blood will frequently be drawn. In cutting through the first skin, one comes in contact with a membrane that is comparable to the mucous membrane of the eyes, nose and bronchial tubes. Then dried powder of the various pollens is applied to the cut areas and a drop of tenth normal sodium hydroxide is added. The hydroxide solution dissolves the protein and small epidermal cells, thus allowing the protein to come in contact with the second skin. If the proteins are available in concentrated solutions it is best to use a drop of the solution on the cut area instead of the dried material. Especially is this true of pol-

lens. The appearance of a hive with pseudopods, surrounded by an irregular area of erythema, indicates a positive reaction.

METHOD OF MAKING INTRA-DERMAL TESTS

In using the intra-dermal method, solutions of various dilutions of the proteins are used. They are given with a hypodermic needle between the two layers of skin. The appearance of a hive with pseudopods, and an area of erythema, is a positive reaction. Hives with pseudopodia, without erythema, cannot be counted as a positive reaction. The erythema is a necessary part of every positive reaction, whether it be dermal or intra-dermal.

This method of testing is complicated, not because it is difficult to inject a solution intradermally, but solutions of definite concentrations must be used, which necessitates the standardizing of many stock solutions.

METHOD OF MAKING HYPODERMIC TESTS

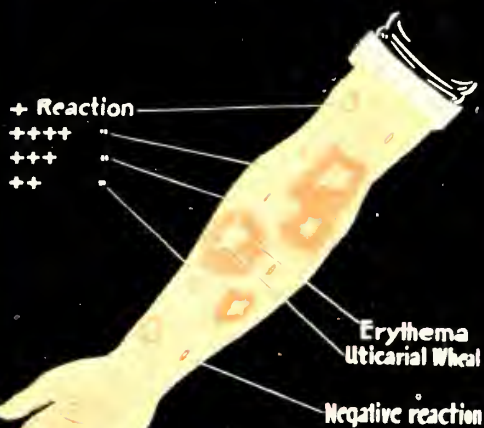
There are certain cases with typical allergic histories who are negative both to dermal and intra-dermal tests. Some of these same patients tested by the hypodermic method will give a typical positive reaction. This test is made by injecting subcutaneously from .1c.c. to .2 c.c. of various dilutions of protein extracts. An area of erythema without a urticarial wheal appearing in from one to twenty-four hours, is a positive reaction.

In our Clinic the dermal method is used routinely and all questionable reactions, both in children and adults, are checked by the intra-dermal or hypodermic method. In patients past middle life, due to the decreased sensitivity of the skin, the intra-dermal method must be used along with the dermal in nearly all cases. In a small percentage of the cases, especially those over forty-five years of age, the hypodermic method must be used to determine the protein to which the patient is sensitive.

PLATE NO. 1

Plate No. 1 illustrates various degrees of positive and negative reaction of dermal tests. The hive produced is practically always irregular in outline, with finger-like projections. Around all positive reactions, as shown in the Plate, is an area of erythema. An urticarial wheal without an area of erythema, even if irregular in outline, is a reaction which cannot be called positive. There is usually a slight line of redness about a scratch made in the epidermis but, as can be seen, the redness

METHODS OF TESTING



DERMAL TESTS

PLATE NO. 1.

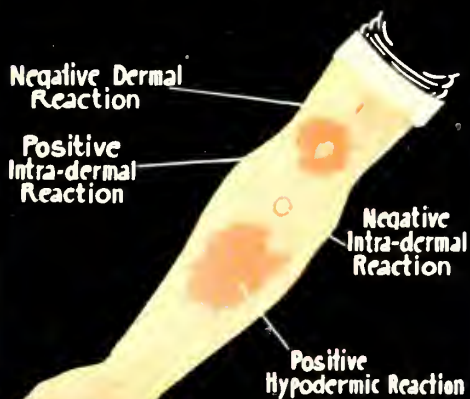
METHODS OF TESTING



Illustrating dermal and intra-dermal Tests

PLATE NO. 2.

METHODS OF TESTING



Illustrating three Methods of Testing

PLATE NO. 3.

METHODS OF TESTING



Determining the Initial Dose

PLATE NO. 4.

follows the line of scratch in the negative reactions.

In some cases with sensitive skins a negative reaction may have a hive of considerable size but the erythema will always be absent.

PLATE NO. 2

Plate No. 2 shows the difference between a positive intra-dermal and a positive dermal reaction. It is noted from the Plate that the hive from the intradermal reaction is not as irregular in outline as the one from the dermal reaction. This is not always true, but frequently the case. The skin of many patients is very sensitive to trauma, for which reason, in negative reactions there may be a hive of considerable size, but it always follows the line of scratch and encircles the point of intra-dermal injection, and there is no area of erythema.

It is noted from the above illustration that the intra-dermal hives of the negative reactions are circular in outline and the dermal reactions are elongated. These should not be mistaken for positive reactions.

PLATE NO. 3

Plate No. 3 demonstrates the fact that certain cases may show a definitely negative reaction with a dermal test, and one that is definitely positive by the intra-dermal, with the same protein, also that there are certain cases which are entirely negative to the intra-dermal method that will show a positive reaction to the hypodermic test, using the same protein.

It is interesting to note, as shown above, that the hypodermic reaction shows no urticarial wheal.

There are many patients over thirty years of age who have lost, to a large extent, the sensitivity of the skin, for which either the intra-dermal or the hypodermic test must be used.

PLATE NO. 4

Plate No. 4 gives us a method of determining the initial dose of a protein extract to be used in treatment. Either by the dermal method or the intra-dermal method various dilutions of a protein extract are applied. Usually we start with 1-500 dilution and apply the various dilutions down to either 1-40,000 or 1-80,000 dilution. The initial dose should be a small amount from the dilution just lower

than the one which gave the smallest positive reaction.

METHOD OF SELECTING THE CORRECT PROTEINS FOR TREATMENT

The treatment of hay-fever and asthma is very satisfactory providing the proteins to which the patient is sensitive are determined, and they can be in about eighty to eighty-five percent of the cases, and the correct proteins are chosen for treatment. The causes of asthma and hay-fever are so varied, that to say that they have such a condition means no more than to say that any patient has fever, as the cause of fever may be from a hundred or more different sources. It would be foolish to treat all patients with fever in a similar way, but for the patient whose fever is due to the malarial plasmodium quinine is used, and the one whose fever or symptoms are caused by the spirachæta of palladium, arsenic is used, etc. In other words, the actual cause of the fever is determined before treatment is instituted.

Until recently all asthma cases were treated in a similar way and all hay-fever patients were done likewise. The actual cause of the condition was not determined. This likewise was true of fevers a century ago, but today we have methods of determining the actual cause of hay-fever and asthma and other allergic conditions. For this reason there is no excuse at the present time for treating hay-fever and asthma patients unless the cause has been thoroughly investigated.

A patient whose asthma or hay-fever is due to ragweed cannot be treated with Bermuda grass, with the hope of relieving symptoms, or vice versa. Or a patient whose symptoms are caused by orris root cannot be relieved by treating the patient with pollens. Or a patient whose symptoms are caused by western water hemp, which is pollinating during the ragweed season, cannot be desensitized with ragweed pollen, etc.

Following will be shown a list of illustrative cases of asthma and hay-fever from which the author wishes to point out a method of the selection of proteins for treatment of hay-fever and asthma.

ILLUSTRATIVE CASE NO. 1

Case No. 1 is a patient whose symptoms first appear about July 10th and continue until frost. The cut below shows the pollens to which the patient is sensitive. Red

top does not grow in Oklahoma, therefore is not causing this patient any trouble. Goldenrod is an insect pollinated plant, likewise the sunflower, therefore neither are producing any of the hay-fever symptoms that this patient has to contend with,

SELECTION of PROTEINS for the TREATMENT of HAY-FEVER and ASTHMA PATIENTS

Illustrative Case of Seasonal Hay-Fever

Patient sensitive to:-

Red top	++++
Goldenrod	++
Sunflower	++++
Bermuda	++
Timothy	++++
Russian thistle	+++

First symptoms appear about July 10th

unless he should come into very intimate contact with them, such as directly smelling them or using them as decorations in a room. Timothy is not a native of Oklahoma, therefore is not a factor in the symptomatology. This brings us to Russian thistle and Bermuda as the only two pollinating plants that could possibly be a factor in the production of his symptoms.

Let us assume for the sake of argument that this man lives in eastern Oklahoma. Russian thistle is not abundant enough there to produce hay-fever symptoms, therefore Bermuda is the entire cause of his symptoms and Bermuda should be used for treatment. If this man should live in some of our far western counties where Russian thistle is very abundant and Bermuda is very scarce, he should be treated with Russian thistle and Russian thistle only. One can easily see that the selection of the pollens for treatment necessitates a knowledge of the plant life of not only the state but the county in which the patient lives.

ILLUSTRATIVE CASE NO. 2

Patient No. 2 begins her symptoms about May 20th, which usually means that

some grass is playing a part in the cause of the symptoms. The plate below shows the proteins to which she is sensitive. Patients are frequently sensitive to many pollens that are playing practically no part in the cause of their symptoms.

SELECTION of PROTEINS for the TREATMENT of HAY-FEVER and ASTHMA PATIENTS

Illustrative Case of Seasonal Hay-Fever

Patient sensitive to:-

Western ragweed	++++
Bermuda	+++
Russian thistle	++++
Western waterhemp	++++
Timothy	++++
Oak	++++
Corn	++++
Goldenrod	+++
Cottonwood	++

First symptoms appear about May 20th.

Let us assume that this patient lives in the western part of Oklahoma. She is sensitive to timothy, which is not a native of Oklahoma, therefore not a factor in the cause of her trouble. She has become sensitized to timothy pollen while living in some part of the country in which timothy grows. Her symptoms do not begin before May 20th, therefore cottonwood, which pollinates much earlier, is not a factor. Likewise, oak is playing no part. Goldenrod is an insect pollinated plant, therefore is not a factor. Patients who are sensitive to corn may have symptoms from corn pollen, but since the pollen is very heavy it cannot be wafted by the air, therefore unless one is actually working in a cornfield it can play very little part. In the western part of Oklahoma western water hemp is very scarce, therefore this leaves western ragweed, Bermuda and Russian thistle as the only possible factors. From the very fact that her symptoms begin about May 20, shows that Bermuda is a factor, inasmuch as Russian thistle does not begin to pollinate until July 10th and western ragweed until past the middle of August.

In her treatment all three pollens must be used. One might desensitize her thor-

oughly to the pollen of ragweed and Bermuda and leave out Russian thistle and she would probably be free from symptoms until July 10th, but from that time until frost would have symptoms on account of the pollen from Russian thistle, and the same would hold true by leaving out either one of the other two pollens.

ILLUSTRATIVE CASE NO. 3

Case No. 3 illustrates a patient who is sensitive to a large number of pollens, which is not at all uncommon. The symptoms appear about July 10th. Now this

ment against them must be used. This means that if this man wants relief he must be desensitized with Bermuda grass, western water hemp and the three ragweeds. An individual treatment of Bermuda must be made up, one of water hemp and one consisting of the three ragweeds. The Bermuda and the water hemp should be started first and practically finished before the ragweed is started.

If these three pollens are used for treatment, and the dosage carried sufficiently high, this man can be promised at least seventy-five to eighty chances out of a hundred of having practical freedom from his hay-fever.

ILLUSTRATIVE CASE NO. 4

Case No. 4 is one of perennial hay-fever, who is, as shown by the chart, sensitive to pollens, orris root—which is the body of a

SELECTION of PROTEINS for the TREATMENT of HAY-FEVER and ASTHMA PATIENTS

Illustrative Case of Seasonal Hay-Fever
and Asthma
Patient sensitive to:—

Giant ragweed	++++
Short ragweed	+++
Western ragweed	++
Prairie sage	+++
Cocklebur	++++
Western Waterhemp	++++
Amaranthus retroflexus	++++
Amaranthus spinosus	+++
Bermuda	++
Johnson grass	++
Timothy	++

First symptoms appear about July 10th

patient cannot be treated with all the pollens to which he is sensitive. One must choose those pollens for treatment which are the most probable sources of his trouble.

Let us assume that he lives in Oklahoma City. We can at once rule out prairie sage, cockle bur, Johnson grass and timothy. This leaves giant ragweeds, short ragweed, western ragweed, western water hemp, amaranthus retroflexus, amaranthus spinosus and Bermuda as possible causes. Amaranthus retroflexus and spinosus are only moderately abundant here, therefore the author would suggest that they be cut from the list of pollens for his treatment. Bermuda being very abundant necessitates its use. Western water hemp is extremely abundant, and our experience has shown us that it requires desensitization against it, likewise the three ragweeds are about equally abundant here and treat-

SELECTION of PROTEINS for the TREATMENT of HAY-FEVER and ASTHMA PATIENTS

Illustrative Case of Perennial Hay-Fever

Patient sensitive to:—

Western water hemp	+++
Lamb's Quarter	+++
Amaranthus spinosus	+++
Mountain Cedar	++++
Orris root	++++
Goose feathers	++++

Symptoms are continuous throughout the entire year. Very severe from July 10 to frost.

large number of our face powders, in fact practically all cosmetics made in France—and also to goose feathers. Her symptoms are continuous throughout the year, more severe, however, from July to frost. Western water hemp, lamb's quarter, amaranthus spinosus, the three pollens to which she is sensitive, begin to pollinate the fore part of July. Since amaranthus spinosus is only moderately abundant in Oklahoma and the pollen from lamb's quarter is only fairly toxic, the author would suggest leaving out these two pollens and using western water hemp for treatment, inas-

much as the plant life is so extremely abundant and the amount of pollen produced is very profuse. Mountain cedar is present only in a very few places in Oklahoma and not present near where this patient lives. She evidently has lived in Texas or some of the western states, or otherwise would not be sensitive to mountain cedar.

She sleeps on goose feather pillows, which is a cause of perennial hay-fever. She uses an orris root powder, which is a common cause of perennial hay-fever.

The patient actually lived in Oklahoma City, was treated with western water hemp; her orris root powder was changed to Marinello medicated powder, kapoc pillows were substituted for the goose er ones, and her symptoms have entirely disappeared.

ILLUSTRATIVE CASE No. 5

Illustrative Case No. 5 is one of perennial asthma, who, as is shown by the chart below, is sensitive to pollen, animal emana-

SELECTION of PROTEINS
for the TREATMENT of HAY-FEVER
and ASTHMA PATIENTS
 Illustrative Case of Perennial Asthma
 Patient sensitive to:-

Giant Ragweed	++++
Horse dander	++++
Whole wheat	+++
Cat hair	++
Rabbit hair	+++

Symptoms are continuous the whole year

tions and food. Rabbit hair is a fairly common cause of asthma, especially in children who have them as pets, and may be caused from rabbit hair in the upholstered furniture. This man has no upholstered furniture. Cat hair is a factor in many cases, but it happens to be in this patient's case there are no cats in the home. He eats wheat in many forms, lives around horses and comes in contact with giant ragweed pollen, therefore these three

factors must be considered. From August until frost his bronchial tree is bombarded with ragweed pollen. From that time on through the winter he constantly comes in contact with a moderate amount of pollen, which gets into the air with the dust. The irritation from the pollen during the pollinating season, makes the bronchial tubes extremely irritable, so that the horse dander, and the wheat he eats, irritates his bronchial tree very easily.

This case was managed in the following way. Wheat was entirely removed from his diet. He was desensitized to horse dander, inasmuch as he was constantly around horses. If he had been living under the circumstances that a great many men live at the present time, with the abundance of automobiles and the scarcity of horses, the author would feel that he should not have been desensitized to horse dander. He was desensitized to giant ragweed because, living in Oklahoma, it is impossible to get away from the ragweed pollen.

He was freed from his asthmatic symptoms and has continued to remain so.

SELECTION of PROTEINS
for the TREATMENT of HAY-FEVER
and ASTHMA PATIENTS
 Illustrative Case of Perennial Asthma
 Patient sensitive to:-

Red top	++++
Bermuda	+++
Canary grass	++
Gama grass	+++

Symptoms are continuous the entire year.
 More marked in late fall.

ILLUSTRATIVE CASE No. 6

This patient is a case of perennial asthma sensitive to pollens and pollens only. It is not at all uncommon to find such a case. She is sensitive to grass pollen. Several years ago she lived in the north, at which time she evidently became sensitized to red top, but it is not a factor in her

asthma at the present time because red top does not grow in Oklahoma. Canary and gama grass is moderately abundant here. Bermuda is profuse.

It was the opinion of the author that Bermuda was the chief cause of her trouble and she was given Bermuda extract only in her treatment, with resultant freedom from her perennial asthma.

Patients frequently ask, and likewise many doctors, this question: "If a patient is only sensitive to pollens, why should they have their asthma during the winter?" and it is answered in the following way. During the pollinating season the bronchial tree is irritated constantly with the pollens. Asthma may not be produced during that season, or may be very light on account of the balmy air, but as soon as the cold rains begin in late September and October the asthmatic symptoms may become severe, and be even more severe after the pollinating season, which is some time after the 1st of November, due to the fact that the cold air will continue to irritate an already irritated mucous membrane due to pollen. Also during the winter, practically at all times, especially in the south and west, the bronchial tree is being irritated by pollen which has not deteriorated but gets into the air whenever the wind blows. This carries the patient throughout the entire winter. It is very common, however, to have these patients tell us that they are fairly free during January and February, at which time the ground is frequently covered with snow or very wet, thereby preventing pollen from getting into the air.

METHOD OF TREATMENT

Since the causes of hay-fever and asthma vary so greatly in different cases, the treatment required will seldom be the same in any two cases. It is believed that the cause of about ninety per cent of all cases of hay fever, and from thirty to sixty per cent of asthma is due to the sensitivity to one or more proteins. The treatment for these patients will naturally be the elimination of the protein, either by removing the protein from the patient or the patient from the protein, or desensitizing the patients to the protein or proteins to which they are sensitive.

In the treatment of any hay-fever or asthma patient palliative means must be used for the relief of symptoms while treatment for removing the cause is being given. In case of asthma, adrenalin hy-

drochloride or ephedrin for the relief of paroxysms should be used, while specific desensitization to the causative protein is being done. In the case of hay-fever a great deal of the desensitizing is done prior to the season, so palliative treatment is not required. If treatment is co-season, the use of estivin in the eyes, and liquid alboline as a spray in the nose, which works only mechanically by covering over the mucous membrane, thereby protecting them from the irritating action of the pollen, is all that can be done.

POLLEN THERAPY

Since more than ninety per cent of all the hay fever in Oklahoma, and at least sixty per cent of all asthma cases, are due to pollens, pollen protein therapy is therefore very important, and the author wishes to explain a method of desensitizing. Our pollens are made up in dilutions from 1-100 to 1-80,000. Before treatment is started, as has been previously mentioned in the paper, the initial dose should be determined, which has also been discussed.

GRADUATED DOSES OF PROTEIN EXTRACT FOR TREATMENT		
.15 cc	-----	1-40,000 Dilution
.15 cc	-----	1-20,000 "
.15 cc	-----	1-10,000 "
.15 cc	-----	1-5,000 "
.25 cc	-----	1-5,000 "
.35 cc	-----	1-5,000 "
.45 cc	-----	1-5,000 "
.15 cc	-----	1-1,000 "
.25 cc	-----	1-1,000 "
.15 cc	-----	1-500 "
.25 cc	-----	1-500 "
.35 cc	-----	1-500 "
.45 cc	-----	1-500 "
.1 cc	-----	1-100 "
.15 cc	-----	1-100 "
.2 cc	-----	1-100 "
.25 cc	-----	1-100 "
.3 cc	-----	1-100 "
.35 cc	-----	1-100 "

ILLUSTRATIVE PLATE NO. 7

Plate No. 7 shows the various dilutions used in treatment. If, for example, 1-10,000 gives the smallest reaction in testing for the initial dose, then .15 c.c. of the 1-20,000 dilution is first used in treatment. From that we drop to the 1-10,000, then from there to 1-1,000, etc., as can be seen in the chart. The interval between doses must be largely determined from the time

treatment is started, i.e., if it is a hay-fever patient who is being treated pre-season, if possible start your patient so that five-day intervals can be used, as it is believed that is a very good interval. If the time between beginning and the onset of hay-fever symptoms is such that only four day intervals can be used, well and good, or only three days, or even two days, as it is believed it makes very little difference between two and five day intervals. If necessary, one day interval can be used. Sometimes we have used even twice a day treatment, especially with the pollens of low toxicity, such as the grasses. Now, in the treatment there comes a time when a maximum dose is reached. It has been our experience that most patients can take as much as .15 c.c. of the 1-50 dilution. In our work, however, we are calling the 1-50 dilution 1-100, for simplicity, so from the chart we would say that most patients can take as much as .15 c.c. of 1-100 dilution. Many of them, however, can go higher, even as high as .35 c.c. of the 1-100 dilution.

HOW TO DETERMINE MAXIMUM DOSE

The following is the method of determining the maximum dose: If .2 c.c. of the 1-100 dilution gives a fairly marked local reaction on the arm, or gives hay-fever or asthma symptoms, the next dose of the extract should not be increased but it should be .2 c.c. of the 1-100 dilution. If this dose should give a local or systemic reaction it should be called the maximum dose for that patient, and from that time on during the season at from seven to ten-day intervals it is wise to give a dose of the extract just lower than the one which is counted the maximum dose; in other words, in this case it would be .15 c.c. of the 1-100 dilution.

Assume that the second time .2 c.c. of the 1-100 dilution was given, no reaction was obtained, or a very slight reaction, then that patient's maximum dose has not been reached, so on the next treatment day .25 c.c. of the 1-100 dilution should be used, and if this does not give a reaction step still higher, or if it should, repeat the same sized dose, i.e., .25 c.c. of the 1-100 dilution, and if a second time a similar reaction is obtained, .25 c.c. would be that patient's maximum dose, etc.

Always remember that in protein therapy, if a marked local or a systemic reaction is obtained that the symptoms can be relieved by giving 7 1-2 minims of

adrenalin hydrochloride subcutaneously. Repeat, if necessary, for the relief of symptoms.

It should be remembered, as has been pointed out from the illustrative cases discussed, that multiple sensitivity is the rule, so that many asthmatics, and a certain per cent of hay-fever people, are due to proteins other than pollen, or are due to a combination of pollens and other proteins, so that such patients will either have to be desensitized to proteins other than pollens or the protein removed from the patient.

It has been the experience of the author so many times to see hay-fever and asthma people who have been treated with pollen therapy with a combination of a large number of pollens without relief, and when these same patients were treated with a few pollens that are actually causing their trouble that they obtain relief, and that many cases that have been treated with the correct pollen have not been carried sufficiently high in the treatment, which has been the cause of poor results. Other patients have appeared at the Clinic who were sensitive to a number of proteins other than pollens, who have been treated by pollen therapy without relief because the other proteins had not been removed.

The purpose of this paper is that of trying to point out the various methods of testing for protein sensitivity that are available at the present time, and also to show a method of deciding on the proteins that should be used for treatment and how to give the protein extracts.

CARE AND FEEDING OF PREMATURE INFANTS*

C. V. RICE, M.D.
MUSKOGEE.

The cause of premature births cannot at times be explained as they occur where nothing abnormal can be found about the mother, no illness. They have occurred when mothers have taken no excessive exercise, and with the urine, and blood pressure normal, but we have them, and will continue to have them. It behooves us, therefore, to develop the proper growth in these unfortunate premature infants.

*Read before the Section on Obstetrics and Pediatrics, Annual Meeting, Oklahoma State Medical Association, Oklahoma City, June 22, 23, 24, 1926.

The mortality of premature infants is not as high as one would expect; one authority, who made a survey of several institutions, found 81 per cent of 500 cases of premature births still alive, and, in my own practice, I cannot remember of losing a case where it had gone to seven months or more. We know that the closer we can get the mother to term, the greater chance the infant has of surviving.

Seventy-five or eighty per cent. of all births are still taking place in the home, and many of these cannot be hospitalized, even if they wanted to be, so this paper is not intended for the hospital man who has all of the advantages in these cases, but for the general practitioner who does the best he can with the means at hand and with such assistance as may be had at the time.

The first consideration for premature infants should be the care due it on its arrival; preservation of body heat is the important thing. It should be received in a warm blanket and the cord should not be cut until pulsation has subsided, as it is said the infant will receive from 30 to 60 cc. of blood from the placenta through uterine contractions, and respirations on the part of the infant. This amount of blood will mean a great deal to a premature infant in the way of oxygen and other constituents, and food value. The cord is ligated and cut, and treated with a 2 per cent solution of mercurochrome, the eyes receive the proper treatment, and the child is given a warm olive oil bath and placed in a cotton jacket which envelopes it. A soft, clean cotton cloth is placed at the genito-anal region, and it is now ready for its permanent bed. There are various types of home-made beds and incubators described in the literature on the subject, but for the average home, perhaps none is better than an ordinary-sized wash basket. This is well padded, inside and out, and a large heavy blanket placed in the bottom. Heat must be applied, perhaps in no better way than by hot water bottles; a thermometer should be placed in the basket and the temperature maintained at from 80° to 90° F. at all times. To supply the necessary moisture, a small pan or jar of water may be placed in one end of the basket. The basket should be placed in a well ventilated room, the temperature of which should range between 68° and 78° F. It is important that the room should have no other occupants, if this cannot be so arranged, it should have an imaginary

room, that is, it should be made by roping or screening off a portion of the room, allowing no one to come any closer to the infant. The attendant must be free from any infection, such as a cold, as these infants, with their lowered resistance, will not tolerate any infections. Keeping every one away, and hands off, is next in importance, if not as important as the feeding.

Feeding is next to be considered. The first twelve hours nothing is to be given but water. These infants should receive about one sixth of the body weight of water, inclusive of that contained in the milk, in every 24 hours, while in the heated bed.

No single rule is prescribed for the feeding of premature infants. One thing is to be borne in mind, the infant must gain and establish a resistance. High calories must be considered, as high as 80 or 100 calories to the pound weight must be given for a gain. Mother's milk is the ideal food, this, diluted the first few days until digestion is established, and then whole mother's milk is given. The infant should be fed about every two hours for the first two months, or until it shows a substantial gain in weight, when it may be put on a three-hour schedule, and as its gain in weight continues, a four hour schedule. For a proper gain on mother's milk the calories must be built up. The infant will not gain on mother's milk alone, as it cannot take the quantity or volume to get the calories. It is therefore necessary to add some form of powdered milk to the mother's milk to make up the proper number of calories until the infant has gained and is sufficiently strong to take the breast. We have considered the breast feeding of premature infants; we will now consider the artificially fed premature infant.

It has been said that when an infant cannot digest mother's milk, it can digest Eagle Brand. This food should never be considered for a permanent food, as it does not contain the proper quantity of minerals for a healthy development of the infant. I have found from experience that these infants will not vomit Eagle Brand as readily as other milks and the digestive tract is established without much trouble. After the first few days Dryco is added to the Eagle Brand and water, to build up the calories and also to furnish more mineral matter. From time to time more Eagle Brand and Dryco is added. After

the infant has made a fair gain on this formula, a change is made to lactic acid milk. Dryco is added to each feeding of lactic acid milk for the same reason that it is added to the Eagle Brand, to build up the calories. These infants will do very well and gain rapidly on whole lactic acid milk plus Dryco. Orange juice is added to the diet at about the second month, 15 drops three times a day, for its C and B vitamins. Cod liver oil is added at about the same time, for its A and D vitamins, ten drops three times a day, for the prevention of rickets and the promotion of growth. Some form of iron is to be given during the third month. Iron is stored up in the liver in utero, during the latter months of pregnancy. There is not, therefore, a very large deposit of iron in a premature infant's liver, and it must be added in the early months of its life. I use saccharated iron oxide, 15 gr. to an ounce of water, and permit the infant to nurse it from a bottle three times a day.

At first a large medicine dropper with a short piece of rubber tubing over the lower end to prevent injury to the infant's mouth is used in feeding these cases. A Brech feeder is ideal, but never can be obtained when needed; it may be secured through a druggist or supply house.

As the mother's milk-fed infants grow older and stronger and the maternal breast is available, they may be placed to the breast. For these who are artificially fed, a small graduated nursing bottle with a small nipple may be obtained, and the feeding continued with lactic acid milk and Dryco. When the infant is large enough to take volume so that it will be getting sufficient calories to gain, the Dryco may be discontinued.

I wish to report the results and methods of feeding a premature infant that has been under my care for the past five months, coming into my practice January 5th, when it was two day old, weighing 2 pounds 5 3-4 ounces. This is the smallest baby I ever saw or ever had anything to do with. The baby has been in the hospital during the entire time, up to June 17th. It has had a room all to itself and no one ever saw it during treatment, but the floor nurse. This infant has never had a cold, its skin has been clear and clean, and it never had a rash or pimple.

The baby was started on Eagle Brand, one-third teaspoonful to three drams of water and fed every two hours with a medicine dropper. A few days later one-third

teaspoonful of Dryco was added to each feeding. The quantity of this formula was gradually increased until the infant was getting a level teaspoonful of each in four drams of water. On February 9th. whole lactic acid milk was given with one-third a teaspoonful of Dryco added; it could not take more than four drams at a time. Orange juice and cod liver oil was added to the diet in the second month.

When the infant was three months old she was taking three ounces of lactic acid milk and three drams of Dryco at a feeding every two hours, and its weight was five pounds, two ounces. When the child was four months old it was taking four ounces of lactic acid milk and four drams of Dryco, and her weight was seven pounds and ten ounces. At the age of five and one-half months, the infant weighed eleven pounds and was taking six ounces of lactic acid milk and four drams of Dryco and at this time the Dryco was discontinued. Throughout the feeding of this infant, it has been on very high calories. At this time it was getting about 1000 calories every 24 hours; at its age and weight now, it will not be necessary to continue the feeding with high caloric content.

In conclusion, I wish to say that the successful care and feeding of premature infants depends, first, on the maintenance of body heat, second, seclusion, a room by itself; third, no handling nor visitors, and fourth, food of high caloric content. If these proceedings are carried out, most of the lives of the seven month and older premature infants can be saved.

THE ORAL ADMINISTRATION OF SODIUM—TETRAIODOPHENOL- PHTHALEIN*

JOHN E. HEATLEY, M.D.
OKLAHOMA CITY

Until recently evidence of pathology of the gall bladder has been difficult to demonstrate with the X-Ray. In a small percentage of cases gall stones and thickened gall bladder would cast a shadow on the film. Then sometimes it was doubtful whether the shadow indicated a pathological condition, and stones might or might not be injurious. So-called gall bladder seat was occasionally seen during examination of the stomach and sometimes the

*Read before the Section on Genito-Urinary, Dermatology and Radiology, Annual Meeting, Oklahoma State Medical Association, Oklahoma City, June 22, 23, 24, 1926.

question would arise as to whether a duodenal defect was due to ulcer or adhesions.

Since Graham and Cole visualized the gall bladder with the halogens, many different combinations have been tried. At first used intravenously and accompanied with marked toxic symptoms in many cases. Duodenal tube next used for administration. Now the most popular combination is sodium-tetraiodophenolphthalein in capsule that will not dissolve in the stomach. Levyn uses a double capsule, the outer containing sodium bicarbonate. The iodine preparation casts a much denser shadow than the bromine, and consequently the half dose required produces few disagreeable symptoms. On the whole, the procedure is less troublesome to the patient than the usual gastro-intestinal series.

The most popular routine at this time is as follows: Compound licorice powder given at night; next morning simple enema followed by regular gall films, usual lunch, dinner consisting of considerable fats,—the purpose of the fats being to stimulate the emptying of the gall bladder. Commencing at nine p. m., one capsule is given every fifteen minutes with water until six to ten are given, according to weight of patient. No breakfast. First, or twelve hour film, made at nine a. m., at which time there should be a dense shadow; advisable to use a 14x17 film to determine solubility of capsules. Four hours later the sixteen hour film should show slight change. Meal consisting of fat then given. One hour after meal there should be a marked diminution in size of shadow and thirty-six hour film should indicate complete emptying of opaque material.

The factors influencing the normal filling of a gall bladder are: Obstruction of the cystic duct or gall bladder by stone; adhesion; outside pressure; growth; thickened bile, or result of inflammatory process. Defective liver function may interfere with filling. Thickened gall bladder wall may possibly have some effect on the emptying time.

Direct evidence of pathology may be said to be shown when a non-opaque stone displaces opaque material, causing negative shadows. Sometimes a few small stones are not demonstrated. Many small ones cause mottled appearance. Of course if there is an active process at the time, we will be unable to demonstrate stones on account of non-filling. Care should be taken in order not to confuse non-opaque

stones with gas in the colon. This can be overcome by changing the angle of the rays, or rotating the patient. Incidentally, this is of value in differentiating between opaque gall stones and kidney stones. There should be direct evidence of adhesions or pressure of adjacent organs or tumor masses.

According to Stewart, indirect evidence of pathology may be enumerated in order of importance; First, absence of shadow; second, late appearance of shadow; third, persistence of shadow; fourth, faintness of shadow. Theoretically, absence of shadow may be indicative of impaired liver function, cholecystitis, obstruction to cystic duct or gall bladder. Late appearance of shadow may be due to partial obstruction of cystic duct or gall bladder filled with slightly thickened bile. It has been suggested that a very marked thickening of the gall bladder wall might cause a slow emptying, therefore a persistence of shadow. Levyn believes limitation of the excursion of the diaphragm or adhesions in the upper right quadrant may cause slow emptying. Suggests films be made at deep inspiration and expiration to determine excursion of gall bladder.

Julius Brams' observation of one hundred cases shows two of catarrhal jaundice with fairly dense shadows; one case of hydrops of the gall bladder showed faint shadow; six with large cholesterol stones were demonstrated by negative shadows; three with definite evidence of adhesions; and one with deep jaundice, giving normal shadow. At operation this was found to be a normal gall bladder with hepatitis of unknown origin. Fifty-four cases of cholecystitis with no normal cholecystograms.

Einhorn says he has been able to make correct diagnosis of cholecystitis in ninety-five per cent of cases. These results verified by the surgeon and pathologist.

CONCLUSIONS

Apparently this procedure is the most important advance made in radiography for several years.

Sufficient observations have not been made to determine all the factors influencing the function of the gall bladder and liver, but many institutions are carrying on experimental work at this time.

We know very little of the significance of the different types of shadows at this time, and we must have the assistance of the surgeons and internists to work this out.

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EDITORIAL

ARTICLE FOURTEEN OF THE CON- STITUTION ON FEE SPLITTING.

For the information of members there is
herewith reproduced the above numbered
article, as adopted by the House of Dele-
gates at Oklahoma City.

"Article XIV—Principles of Medical
Ethics: The Principle of Medical Ethics of
the American Medical Association shall
govern the conduct of members in their re-
lation to each other and to the public. As
it is detrimental to the public good and
degrading to the profession, and therefore
unprofessional, to give or receive a com-

mission, it is also unprofessional to divide
a fee for medical advice or surgical treat-
ment, unless the patient or his next friend
is fully informed as to the terms of the
transaction. The patient should realize
that a proper fee should be paid the family
physician for the service he renders in de-
termining the surgical or medical treat-
ment suited to the condition, and in advis-
ing concerning those best qualified to ren-
der any special service that may be re-
quired by the patient."

One is amazed to know that there was
rather marked opposition in some quarters
against this measure. The opposition is
without understanding, and more, it was,
up to this time, unbelievable that oppo-
sition would be found in the mind of any
physician as to the adoption of this princi-
ple, attainment of which has been the
united effort of a profession for many
years. The pernicious habit of "secret
division of fees" has been one of chagrin
to the better element of professional men
since it became known that such practices
were in effect. So flagrant has the prac-
tice become that already some states have
had to pass laws calling for revocation of
license upon proof of such practice. No
man would appear before any State Board
of Medical Examiners and openly declare
in advance, "I propose to divide my fees."
If he did rejection of his application would
almost automatically result.

The Article rather elaborately defines
for the physician, good and bad conduct,
otherwise it is strictly in keeping with the
Code of Ethics of all medical organiza-
tions. If the patient ever discovers that
his surgical operation is being "sold" to
the highest bidder, often sold to incompe-
tent operators, who can operate by no
other system, the seller will certainly lose
forever the support of his former physi-
cian and promptly seek another.

AMENDING THE HARRISON ANTI- NARCOTIC ACT.

There is now pending in Congress a pro-
posal to "strengthen" the Harrison Act by
further onerous responsibilities which fall
upon the physician. The proposal is strong-
ly objected to by the Legal Staff of the
American Medical Association as well as
those societies and Journals which have
had their attention called to it.

The Harrison Law has been very much
of an imposition upon the physician since
its enactment. From time to time since

then, and by Bureau Regulations, the time, patience and prerogatives of the physician have been gradually encroached upon, until the matter has become an irritable nuisance to all concerned. With all the acumen of well-meaning, misadvised apes, most states have added their own restrictions to those imposed by Federal Law until the limit has been reached. Now, further impositions are proposed.

Senate Bill 4085 would permit collectors of internal revenue to refuse registration to physicians *whom they believe* narcotic addicts. That is all, a mere belief on the part of anyone who may be a collector, may forever besmirch the reputation of any physician, even if a court should order the collector to give him registration. Nothing is said as to what may be done to the collector whose *belief* may ruin the physician.

It would require pharmacists to determine whether or not physicians prescriptions were issued in the course of professional practice. And that's that, a druggist is to determine whether or not the physician knows his business. It will require the physician to keep a record of every dose of narcotic administered, whether in the office or elsewhere.

The entire matter of the execution of the Harrison Law will, sooner or later come up for more consideration, and probably different treatment that it has had heretofore. Apparently it was never the intention of Congress, nor would the Supreme Court eventually sustain Congress in permitting the Treasury Department, as it now does, to direct the course of a physician in his handling of cases which are and should be purely matters of the physician's own judgment, unhampered by limitations and restrictions from unprofessional men.

Everyone should, at once, write Oklahoma Congressmen and Senators asking them to oppose this Bill.

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Editorial Notes—Personal and General

DR. and MRS. T. R. PRESTON, Weleetka, are spending a two-months' vacation in Kentucky.

DR. A. H. STEWART, Lawton, was appointed city health officer recently, succeeding Dr. C. P. Hues, who resigned.

DR. and MRS. G. A. COMP, Manitou, returned recently from a two weeks' trip through the southern states and Mexico.

DR. D. J. HERRINGTON, Jennings, has moved to Cushing.

DR. O. E. HOWELL, Oktaha, has moved to Amarillo, Texas.

DR. T. O. CRAWFORD, Dewey, spent a few weeks in clinics in New Orleans.

DR. H. H. CLOUDMAN, Oklahoma City, returned recently from a months' trip in the East.

DR. C. CURTIS ALLEN, Frederick, was slightly injured recently when he drove his car into a gully.

DR. and MRS. H. C. WEBER, Bartlesville, are making a four-weeks' motor trip to the eastern states.

DR. and MRS. JOHN DAVIS, Stigler, recently attended the death and funeral of Dr. Davis' mother at Gatesville, Texas.

DR. J. P. TORREY, Bartlesville, is spending the summer in Northern Wisconsin, where he is combining practice with an outing.

DR. C. M. MING, Okmulgee, is attending the clinics at Chicago for the past month and expects to be home the middle of August.

DR. R. L. HALL, formerly of Waynoka, has sold his practice there to Dr. Wilson, of Seattle, and is taking post graduate work in Chicago.

DR. JOHN I. GASTON, Madill, is taking a four weeks' post graduate course in Chicago, making the trip with Mrs. Gaston and family by auto.

DOCTOR JAMES WILLIAM WEST.

Dr. J. W. West, Purcell, died suddenly, following an operation at Oklahoma City, May 19th. Born October 10th, 1870, he received his preliminary education in the common schools of Arkansas, graduating from the Medical Department, University of Arkansas in 1901, and after practicing in Arkansas he located in Purcell in 1915, affiliating with the McClain County Society, of which he was a member at the time of his death. Dr. West is survived by his mother, wife, a daughter and five sons. He was a member of the Masonic, India Temple Shrine, Oklahoma City, Odd Fellows and other fraternal organizations. Joining the Church at 18 he remained a consistent member throughout his career and was one of the progressive citizens of his community, taking part in all civic and constructive public affairs. Interment was made in Purcell, under Masonic rites, the honorary pall bearers were four physician friends who intimately knew and appreciated his sterling worth. In addition to a large family his passing is mourned by McClain County and many people adjacent who had come in contact with him during his residence in Purcell.

DR. G. O. DUNSETH, of Nebraska, has recently located in Bartlesville.

DR. and MRS. O. S. SOMERVILLE, Bartlesville, are spending the hot weather in Colorado Springs.

DR. J. V. ATHEY, Bartlesville, is back at work after a two week's session with appendicitis. He was operated on July 31.

DR. N. D. MILLER, Bartlesville, has sold his practice to Dr. F. S. Etter, of Beggs, Oklahoma, and will locate in Amarillo, Texas.

DR. A. S. RISSER, Blackwell, President of the Oklahoma State Medical Association, is spending a few weeks' vacation in Missouri.

DR. J. R. HINSHAW, Butler, has returned from a tour of the Eastern states, and some post graduate work under Dr. Richard Cabot in Boston.

DR. J. E. HUGHES, Shawnee, is giving a series of talks before the Shawnee Rotary Club on his impressions after a tour of the European countries.

DR. and MRS. CLARENCE WORKMAN, Woodward, have returned from a visit to California, bringing Mrs. Workman's mother to reside with them.

DR. and MRS. J. G. SMITH, Bartlesville, made a six-weeks' motor trip to New England and New York, where Dr. Smith spent some time in post graduate work.

DR. ELIZABETH M. CHAMBERLIN, Bartlesville, spent a week at Des Moines, where she went as a delegate to the Convention of Business and Professional Women's Clubs.

DR. and MRS. B. W. BAKER, and family, Cordell, are visiting in Indiana during the summer, Dr. Baker also taking a months' post graduate work in obstetrics under Dr. DeLee at Chicago.

DR. EARL D. McBRIDE, Oklahoma City, has been appointed to the advisory staff of the Journal of Bone and Joint Surgery, following a recent reorganization.

DOCTOR BENJAMIN D. WOODSON.

Dr. B. D. Woodson, Poteau, died after a short illness from appendicitis at a Fort Smith Hospital. Dr. Woodson was born at Hartford, Arkansas, March 6, 1868. Educated at Beckman College, he graduated from the Memphis Hospital Medical College, March, 1890. He received his Indian Territory license to practice July, 1904, and had practiced at Poteau since that time. For many years Dr. Woodson was a member of the Indian Territory Medical Society and had been a member of Leflore County and the State Medical Association since their organizations.

OKLAHOMA COUNTY MEDICAL SOCIETY is planning a series of bi-weekly programs for the winter, beginning September 5th, under direction of Dr. H. H. Cloudman, chairman of the program committee.

DR. and MRS. A. A. WEST and family, Guthrie, left recently for Chicago, where Dr. West is taking post graduate work at Northwestern; he will also take some work at the Mayo Brothers Clinic before returning.

DR. S. J. BRADFIELD, Bartlesville, has disposed of his practice to Dr. H. G. Crawford, of La Junta, Colo. He is spending some time at clinics at Chicago and Rochester, Minnesota, and expects to locate in Amarillo, Texas.

Transactions, Thirty-fourth Annual Session, Oklahoma State Medical Association, Oklahoma City, June 22, 23, 24, 1926. (Continued from the July Journal).

REPORT OF COMMITTEE ON CONSERVATION OF VISION.

Oklahoma State Medical Association:—

Sight conservation deserves a most important place in the health supervision activities of our schools. Health supervision, as it relates to the detection of physical defects, is sometimes conducted under the direction of the Boards of Education and sometimes under the direction of Boards of Health.

That the schools should make every effort to discover cases of defective vision among pupils, is agreed generally; whether the schools are to be required to correct such defects is not yet decided.

It is important to determine to what extent defects in vision and diseased eye conditions can be discovered by the type of examinations which it is practicable to conduct in schools. Such examinations are now given by eye specialists, by practising physicians who are not eye specialists, by teachers, nurses and by other trained non-medical examiners. Obviously, the success of such examinations depends upon: (a) The knowledge and skill possessed by the individual examiner; (b) the time which is given to the examination of each individual; and (c) the conditions under which the examination is made.

The ideal plan is to have adequately equipped rooms in which ophthalmologists examine all school children's eyes. This would provide every child with a careful periodical eye examination which is otherwise possible only for the children of well-to-do parents.

During the last few years has come an increasing tendency to provide fairly complete health examinations for school children of all ages. Because of the close relation between vision and general health, eyesight tests must be a part of any health examination; otherwise a true estimate of a child's health is not obtained. The greater the skill and training of the examiner, the more accurate will be the opinion given. Nevertheless, since cases of apparently defective vision and suspected eye disease are usually treated by skilled practitioners and not the examiner, the use of teachers and other non-medical examiners is justifiable as the most practical means for examining now available.

DUTIES OF TEACHERS IN CONSERVING
VISION

1. Instruct the children in simple rules of eye hygiene and see that they are followed. Practice them in the classroom. These rules are suggested:

That the reading page should be 12-14 inches from the eyes; that the child should sit in good light falling over the left shoulder; that no reading should be done in direct sunlight or in a poor light. Posture affects vision and vision affects posture. It is most important that children be required to work in erect positions, and their tendency to get the head very close to the work should be corrected.

2. Watch the children to observe symptoms of eyestrain. The principal symptoms are headaches, red or inflamed eyes, blurred vision, and granulated eyelids. These and other symptoms which the careful teacher will observe, are indi-

cations that the children may be suffering from some form of defective vision or eyestrain.

3. If any of these symptoms are present, the teacher should notify the principal, the school nurse or school physician, and have children especially examined. This examination should be made promptly.

4. Have the physical conditions in the room such that eyestrain will be reduced to a minimum.

a. Seat those with defective vision at the front of the room.

b. Have the room properly lighted at all times with the shades adjusted to prevent glare when the sun is shining directly into the room, so arranged at other times, as to permit an abundance of light to enter through the upper part of the windows. On dark days use artificial light whenever needed.

5. Keep a list of the children supposed to be wearing glasses and check up this list frequently

PROPORTION OF PUPILS BLIND FROM OPHTHALMIA NEONATORUM IN FIFTY-SEVEN
SCHOOLS AND CLASSES FOR THE BLIND—1924-1925.

Schools	Total Pupils 1924-25	Total Pupils Blind From O.N.	Per Cent	New Admis- sions 1924-25	New Pupils Blind From O.N.	Per Cent
Arizona	8	0	0.0	30	0	0.0
Arkansas	100	21	21.0	21	2	9.5
California	105	29	27.6	15	3	20.0
Colorado	70	15	21.4	16	4	25.0
Connecticut	59	6	10.1	11	1	9.0
Florida	63	10.0*	12	2	16.6
Idaho	24	3	12.5	7	0	0.0
Illinois	232	58	25.0	26	4	15.3
Indiana	138	22	15.0	22	7	31.8
Iowa	124	28	22.5	14	2	14.2
Kansas	118	25	21.1	13	1	7.6
Kentucky	108	35	32.4	10	7	70.0
Louisiana (White)	80	6	7.5	7	2	28.5
Louisiana (Colored)	25	3	12.0	6	2	33.3
Maryland (White)	101	20	19.8	16	0	0.0
Maryland (Colored)	29	1	3.4	4	0	0.0
Massachusetts	297	54	18.1	36	6	16.6
Michigan	182	5	2.7	28	0	0.0
Minnesota	128	22	17.1	34	3	8.8
Mississippi	80	12	15.0	8	0	0.0
Missouri	128	29	22.6	20	2	10.0
Montana	17	3	17.6	3	1	33.3
Nebraska	62	2	3.2	13	0	0.0
New Mexico	84	28	33.3	16	5	31.2
New York Institute	119	22	18.4	24	2	8.3
New York State School	178	32	17.9	21	2	9.5
North Carolina (White)	174	15	8.6	30	3	10.0
North Carolina (Colored)	88	6	6.8
Ohio	280	75	26.7	37	2	5.4
Oklahoma	132	37	28.0	18	7	38.8
Oregon	47	1	2.1	9	0	0.0
Pennsylvania Institute	241	64	26.5	28	6	21.4
Western Pennsylvania	138	41	29.7	20	1	5.0
South Dakota	36	6	16.6	5	0	0.0
Tennessee	161	23	14.2	33	1	3.3
Texas	217	43	19.8	36	3	8.3
Utah	32	2	6.2	11	1	9.9
Virginia	74	16	21.6	15	2	13.0
Washington	74	6	8.1	14	1	7.1
West Virginia	77	17	22.0	15	3	20.0
Wisconsin	133	30	22.5	27	0	0.0
TOTAL	4,563	863	18.9	731	88	12.0

*Approximately.

to see that glasses are being worn and are kept clean. This is necessary, because it frequently happens that children will use glasses only at occasional times, either forgetting them at other times, or deliberately leaving them off. Also, they should be observed carefully to see that they are wearing their own glasses and not those belonging to someone else.

6. See that the glasses worn by the pupils are kept clean and properly adjusted. This is very important, because with glasses not in adjustment, or lenses out of focus, an extra strain is put on the eyes, which frequently creates a condition worse than having no glasses. If the glasses are out of adjustment, the child should be sent to the optician who made them for readjustment.

RECOMMENDATIONS

1. Under the present policies, the question arises, "How thoroughly are diseased eye conditions among the pupils of public schools discovered?" It is very likely that teachers, nurses, and other non-medical school examiners will make many of the eye inspections for some time to come. Therefore it is most desirable that the school personnel be carefully instructed in the best methods of conserving sight.

2. Eye inspections of all pupils should be made in the schools yearly, or as frequently as possible, under the best possible and most accurate conditions, by the most skilled persons available. This service should be part of the health supervision program and should be administered by the municipal or state department which gives the best results.

3. Every teacher should be trained to report to the Health Division of the schools any abnormal eye conditions which may be observed.

4. On analysis it appears that the laws of the various states in regard to testing and conserving the vision of school children differ greatly. There is need for a uniform model law to be drafted and adopted by all states and cities of the United States for the examination of the eyes of school children. Adequate powers and sufficient money should be made available for school boards to carry out and enforce the provisions of such a law.

5. Greater emphasis must be placed upon the matter of conserving children's vision, especially from the standpoint of: (a) Finding and correcting the faulty conditions of vision; (b) providing properly lighted class and work rooms; (c) making special provision through conservation of vision classes for those having seriously defective eyesight.

W. ALBERT COOK
E. S. FERGUSON
C. M. FULLENWIDER.

Adopted.

REPORTS OF DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

To the House of Delegates, Oklahoma State Medical Association:

The seventy-six annual session of the American Medical Association held at Atlantic City, May 25th to 29th, 1925, was one of the best sessions ever held.

The House of Delegates convened in the Hotel Traymore Monday at 10:00 A. M., and preliminary report of the Committee on Credentials showed that there was more than quorum present, after which the minutes of the last meeting were approved without reading as copies of same had been sent to all delegates previously.

The Speaker of the House, Dr. F. C. Warnshuis, made his annual address and announced the appointment of the reference committee on which one of your delegates had the honor of serving. Dr. Warnshuis suggested that all important subjects that were to be brought before the house of delegates at the annual session should be submitted at least thirty days before the annual session and published in the bulletin and mailed to every delegate so that the members could familiarize themselves with the subjects that were coming up and save a great deal of time. He also laid stress upon the individual responsibility of the delegates and quoted the following from the address of President Wilbur of the previous year:

"Medicine in the last thirty years has gathered together a fund of information which if it could be directly applied to the benefit of every individual would prolong life and happiness and change the whole current of human thought and life. The fund of information is available. We stand between that information and the public. It is our problem to provide for its distribution. If we make these provisions wisely, if we meet the situation, then we shall maintain the mastery; if we fail, general education has reached such a level that others will begin to demand that there will be a distribution of this information available to the human race, and we shall lose our position of mastery."

In the past the practice of medicine has always been more or less mysterious, but a radical change has come and medical publicity is doing more for the practice of medicine and the improvement of the health of the citizens of this country than anything else that could be done. These facts being so, does it not then become our duty and are we not morally obligated to give careful thought to a definite, progressive policy of publicity for the economic and social reasons that affect us as physicians, and what is more important, the social and economic conditions that involve all human kind? In contrast to the cultist, the fad-dict and the quack, let it become widely known that scientific medicine is founded on sound, proved tenets that have withstood the tests, that are accepted by reason of their intrinsic worth; that it has no secrets, mystic powers or functions. Let it be known that as we, as physicians, advance, the people likewise benefit and profit; that as the social status of the physician is enhanced and elevated, better service ensues and from that higher, more efficient type of service the people in every station of life obtain benefits that tend toward giving them greater physical, social, economic happiness, prosperity and individual well being.

After the address of the Speaker he introduced the President, Dr. William A. Pusey, who delivered his annual address which was published in the Journal so that all of you have the privilege of reading same as it shows that Dr. Pusey, aside from being a success in the practice of medicine in his specialty, is a broad minded man and his long term as treasurer made him familiar with

the activities of the Board of Trustees of the interior workings of the A. M. A.

Dr. Olin West then made his annual report showing that there were 56,121 names on the Fellowship roster, which was a gain of over 2,000 over the preceding year. Dr. West commended the secretaries of the State Associations for the improvement in their Journals and the splendid cooperation they had given during the past year which he attributed as the reason for such a large increase in membership. Several of the state Associations now have full time executive secretaries and four more states were added during the past year, and it is only a question of time until Oklahoma will have to join that class.

It has been a great benefit to county and state societies to have prominent members from the home office make trips to meetings and deliver addresses on matters of public health to the public and we are proud of the audiences who attended Dr. Fishbein's addresses that he was good enough to make in our state.

The Association Bulletin is one of the most interesting and instructive pamphlets and those of you who are not reading it regularly are missing a great deal, as it keeps you in touch with the activities of the A. M. A. during the entire year and you can see how much work is being done by the executive officers; in fact how much more work is being done during the entire year than is transacted at the annual sessions.

Following the Secretary's report Dr. Thomas McDavitt, of St. Paul, made the report of the Board of Trustees which consisted of several tables showing the number of physicians in every state and the number who were members of the Association, and while our state showed a small gain in membership during the year, I am sorry to say that less than half of the men listed in the A. M. A. directory are members of the A. M. A.

The Trustees report showed the Association in the best financial condition it has ever been. The total resources are over a million and a half dollars, the details of which you would not be interested in except that the deficit incurred since the publication of Hygeia was started is growing less each year. There were many interesting reports from different committees, but I will not bore you with them as most of them have been published, but there is one item I wish to quote from President-Elect Haggard's address which hits the nail on the head and applies to every one of us. It is as follows:

"It is not the individual,
Or the army as a whole,
But the everlasting team-work
Of every bloomin' soul."

The House of Delegates met the following morning at 9:30 and several important matters were taken up. The House went into executive session. At this meeting all of the committees made their reports and the House adjourned to meet Thursday afternoon to close up all unfinished business and hold the annual election. Before the election Dr. Hubert Work, Secretary of the Interior, made an interesting address showing that the medical profession has a staunch friend and an able worker in the President's cabinet. Dr. Wendell C. Phillips, of New York, was elected president and he is the first Oto-laryngologist to ever be honored by being chosen for the

highest office in the largest medical society in the world.

Dallas, Texas, was selected as the next meeting place which your delegation was glad to support as it would bring the meeting so near home that many could attend who have never had the privilege of attending one of the annual meetings before. The Atlantic City meeting was attended by 5,000 physicians and the accommodations could not be excelled, as Atlantic City is noted for good hotels, and meeting early before the tourist season opened made the arrangements ideal. The social features were many and I was surprised at the interest taken by the local men in entertaining, as you do not expect much from men who live in a resort community, but the members of the profession at Atlantic City were on the job all the time and the next time we meet there I hope that I will have the pleasure of attending.

W. ALBERT COOK.
McLAIN ROGERS.

To the House of Delegates, Oklahoma State Medical Association:

The medical profession of our state was certainly fortunate in having the meeting of the American Medical Association in our back yard, as it were, as it enabled a great many to attend who have never attended any of the sessions and everyone who attended the Dallas session could not fail to reap a benefit therefrom, and we point with pride to the fact that outside of Texas, Oklahoma had more men in attendance than any other state.

The first meeting on Monday morning was mostly taken up by routine business and the reports of the Credential Committee and also the addresses of the executive officers which were the best I have ever heard. I hope that you all read them as they were published in the Journal and they will give you a better understanding of the work that is transacted by the officers of the association. The Reference Committees were announced and Oklahoma was honored with a place on the Legislation and Public Relations Committee which had several important matters, and the one which will be of more interest than any other was the one relative to the alienists in criminal court proceedings and it looks as if this matter would be regulated so that the courts will do the selecting and pay a reasonable fee for such services out of the court costs, so that those not able financially to employ a battery of high priced alienists will be as well off as the wealthy class.

President Haggard in his usual eloquent manner delivered his address to the House of Delegates and outlined a plan for the promotion of periodic health examinations. Among his suggestions were that the county society should hold clinics emphasizing the need, value, method and technic in the conduct of health examinations and a strong committee in each society to supervise the inauguration and perpetuation of the examinations and also suggested a nation-wide educational campaign during "Health Week" or in connection with some local activity and interest civic clubs and other organizations in the great importance and benefit to be derived from this plan. He suggested that the medical association should start the campaign by having as many of the individual members as possible undergo the examination, first as an educational measure and, secondly, to

imbue the individual members themselves with the importance and far reaching value of the plan. Nothing will stimulate the universal application as much as the profession themselves who so sorely need it, utilizing the idea for their own benefit as well as for the advancement of the general scheme.

The press should be requested to carry articles prepared and issued by the county society, preferably unsigned, as a news article or under the signature, if desired, of the officers of the society, explaining the importance of periodic physical examinations and the benefit to be derived by the health client. These recommendations are to strengthen the work already done, crystalize it and have it activated by the House of Delegates.

No more human, scientific and socially and economically beneficent movement for the well being of the American people could be fostered and put into nation-wide practice than the universal periodic health examination by the American Medical Association.

President-Elect Wendell C. Phillips was introduced and in his address mentioned the advancement that had been made in different lines of treatment and also endorsed the periodic health examinations as outlined by Dr. Haggard.

"I am convinced that modifications in the undergraduate curriculum that will provide for broader education in preventive medicine, public health, psychology and sociology should receive serious consideration on the part of the medical educators.

"To this end I recommend that the House of Delegates urge every practitioner of medicine to become a public health educator in the broadest sense of that term; that the American Medical Association devote sufficient time to the development of ways and means for properly conveying personal and community health education; and that either by the appointment of a special committee or through one of the bureaus of the Association an intensive survey of the general subject of public health education should be inaugurated and reported at the 1927 meeting of the House of Delegates."

I will not bore you with the reports as I know that you are not materially interested in them. A resolution in memory of Dr. Thomas A. McDavitt was introduced by Dr. E. B. Heckel of Pa., and Dr. McDavitt's death March 4th left a vacancy which will be hard to fill as he had been in the House of Delegates and a member of the Board of Trustees for a great many years and one who was always working for the betterment of the medical profession. A radiogram from Dr. Simmons who as you all know was editor of the Journal for twenty-five years was received from Seapoint Cape, South Africa, extending congratulations to delegates on the 25th anniversary of the creation of the House of Delegates and to wish the Dallas session success.

Dr. Wilder, Section on Ophthalmology, read the report of the Advisory Committee to Commissioner of Indian Affairs on Trachoma Among American Indians: In suggestions offered to the Commissioner of Indian Affairs in regard to the problem of the control of trachoma among the Indians, the committee urged the importance of a careful survey with complete records to determine the prevalence of the disease among the

members of the various tribes and nations of Indians.

The committee also urged the importance of prevention of the spread of the disease among Indians not already affected, by proper segregation of active cases in schools and villages so far as feasible, and also by a campaign of education as to the manner in which the disease is conveyed from one to another and the simple measures of cleanliness that will prevent such spread of the trouble.

Dr. Southgate Leigh, Virginia, read the following resolution, which was referred to the Reference Committee on Medical Education:

WHEREAS, The Council on Medical Education and Hospitals has already made certain investigations looking to changes in premedical courses so as to enable students to graduate in medicine at an earlier age than is now possible, and

WHEREAS, Former President Allen Pussy, in his address before this body, urged that the medical course itself be shortened by one year, therefore be it

RESOLVED, By the House of Delegates that the Council be requested to consider feasibility of allowing medical students credit for courses taken during the summer months, in a manner similar to the plan followed in academic departments. The council is further requested to confer with the various medical schools, asking their co-operation in this important movement.

Dr. Southgate Leigh read the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, Through the expenditure of large sums of money, and the employment of prominent and influential individuals to represent them, the irregulars are making systematic and strenuous efforts to obtain official recognition in every state in the union, and

WHEREAS, Many irregulars are illegally practicing in various states and, through financial and influential backing, are making successful efforts against prosecution, and

WHEREAS, In both of these matters there has at times been a lack of systematic and determined effort to thwart their aims.

RESOLVED, By the House of Delegates that the Trustees be requested to take the necessary steps to aid and direct the profession in the various states properly to combat these vicious movements.

Dr. D. E. Sullivan, New Hampshire, read the following resolution, which was referred to the Reference Committee on Miscellaneous Business:

RESOLVED, That the President be, and hereby is authorized and directed to appoint a committee of five representing the different sections of the country to make a survey of the physical condition and financial status of its members who are incapacitated for earning their support by the practice of their profession with the objective of establishing, managing and sustaining a home or homes for their care and maintenance, and be it further

RESOLVED, That the said committee is directed to make a full and comprehensive report of its findings with recommendations to the annual meeting of the House of Delegates in 1927, and the Board of Trustees is hereby empowered to

appropriate such sum of money as may be necessary to carry into effect said survey.

At the Tuesday session of the House of Delegates the Reference Committees made their reports and the following resolution was introduced by Dr. A. T. McCormack, Kentucky, Chairman of the committee on Hygiene and Public Health:

WHEREAS, The title "Doctor" in a medical sense has from the earliest times been associated with the treatment of human ailments; and

WHEREAS, Most of the states now grant licenses to treat the sick to persons of limited educations, such persons not being graduates of reputable medical schools; and

WHEREAS, The use of the title "Doctor" by persons of inferior educational qualifications constantly misleads the public, resulting in much unnecessary suffering and many untimely deaths; therefore, be it

RESOLVED, That it is the sense of the American Medical Association that, for the protection of the public, the title "Doctor" in a medical sense be restricted to doctors of medicine and doctors of dental surgery.

The resolution was unanimously adopted by the House.

The amendment to the constitution authorizing the Board of Trustees to select the place of the annual meetings was introduced and will come up for action next year, but I do not think it will pass as the majority of the members to whom I have talked prefer to have the House of Delegates select the meeting place.

Dr. Hubert Work, Secretary of the Interior, was introduced and made a concise and snappy talk and congratulated the association on the good work that was being done throughout the country.

Col. Gilbert E. Seaman of the Veterans' Bureau was introduced by Dr. H. M. Brown, of Wisconsin, who told us of the work being done by the Bureau and requested the assistance of the Medical Profession in putting the Veterans' Bureau on a better basis and asked for constructive criticism and advice.

Wednesday the House of Delegates did not meet and the members attended different scientific sessions and at noon everyone in attendance at the meeting was invited to a Barbecue given by the Dallas physicians. A heavy rain storm about lunch time reduced the attendance, but all who did attend were enthusiastic as many of them had never tasted barbecued meat before. Thursday afternoon the House met to elect officers, receive reports of committees and select the next meeting place.

The Southwest was honored by having Dr. Jabez N. Jackson from Kansas City elected to the office of president elect without opposition and it was certainly appreciated by your delegates who had been in the House for several years as this is the second time that anyone has ever been elected to the presidency of the A. M. A. with no opposition whatever. Dr. Jackson was sent for and introduced by the speaker and made a short address, the last of which I take pleasure in quoting: "I would be possessed of more vanity than I can summon if I accepted this as an expression of my individual strength. I accept it instead as a representative of that great imperial territory known as the Southwest, because it has been my friends in the Southwest who have be-

lieved in me and who have put my name up for your endorsement today. Yet at the same time, while appreciating the compliment to the Southwest and particularly to my friends of the Southwest. I also say that I appreciate most heartily the enthusiasm with which the whole mass of delegates have supported me. I thank you again for this high honor."

Dr. West was unanimously re-elected Secretary, Dr. Hayden was re-elected Treasurer and Dr. Warnshuis was re-elected Speaker for the sixth time. Dr. Sleyster who has held the office of Vice Speaker for several years was unanimously elected to fill the unexpired term of Dr. McDavitt who passed away in March. Dr. Bruce, of Atlanta, was elected Vice Speaker. The 1927 meeting received invitations from St. Paul, Cincinnati and Washington and upon ballot it was decided to go to Washington. Dr. L. M. Francis, of Buffalo, a prominent member of the Association dropped dead at noon and a telegram of condolence was sent to his wife.

After a resolution thanking the Dallas County Medical Society, The Texas State Society and Dr. Cary, chairman of the local committee on arrangements, and extending hearty thanks and appreciation for the interest and success with which the meeting was handled, the house adjourned to meet in Washington in 1927.

W. ALBERT COOK.
McLAIN ROGERS

TO THE OKLAHOMA STATE MEDICAL ASSOCIATION.

Report of L. S. Willour M. D. Alternate Delegate.

To me has been assigned the task of reporting the Scientific Sections which of course it is impossible for me to do in detail, however, there are some outstanding features which I am glad to mention.

In the first place let me say that the arrangement for section meetings was quite satisfactory, where the larger sections were held loud speakers were used and it was therefore possible for everyone to hear the papers and discussions provided the speaker knew how to use the instrument.

The greatest authorities of our Country were present to present papers and participate in the discussions. In the section on General Medicine were such men as Christian of Boston, Biering of Des Moines, McLester of Birmingham, Barker of Baltimore, Haden of Kansas City, Moorman of Oklahoma City, and many others. Section of surgery, Scott of Temple, Lahey of Boston, Crile of Cleveland, Hugh Young of Baltimore, Mates of New Orleans, Horseley of Richmond, Blair of St. Louis, Dorrance of Philadelphia, Thompson of Galveston, Campbell of Memphis, Cohn of New Orleans, Miller of New Orleans, Polak of Brooklyn, together with other leaders from over the country.

I would like to touch briefly upon the recommendations of President Haggard relative to Periodic Health Examinations. This matter should be taken up through our State Association with each county society, requesting them to obtain the Manual published by the A. M. A. and hold a meeting at least once a year with a view of popularizing this plan. This matter should, through the county societies, be brought to the attention

of the General Public with some educational features along this line. The details of this plan should be worked out by our committee on Public Policy and Instruction of the Public and presented to this body for their approval.

The following Oklahoma doctors participated in the program either by presenting papers or taking part in discussions, Ralph E. Myers, W. K. West, Earl D. McBride, L. J. Moorman, Carl Puckett and W. J. Wallace.

In the general surgical section a committee was appointed to arrange for a fracture exhibit and a symposium on this subject for next year. The section on ophthalmology was a very busy place, this section appears to be doing some real good aside from reading papers and discussing them, they have active committees working throughout the year on various questions and projects such as Compensation Tables and Visual economics, investigation of Ocular Muscles, visual standard for Car Drivers, Trachoma among the Indians and other subjects of interest to these specialists and of vast importance to the general public.

In the section on laryngology a report of the committee on Lye Legislation showed aggressive work before the Senate and House Committees at Washington. The work of a permanent committee of this section on the Deaf Child Problem is worthy of mention.

The programs were well filled, most sections remaining in session until late Friday afternoon and it is my impression after talking with men from the various sections that the scientific program at Dallas was well up to the standard formerly set by this the greatest association of Medical Men in the world.

L. S. WILLOUR

RESOLUTIONS ADOPTED BY THE HOUSE OF DELEGATES, OKLAHOMA CITY, JUNE 23, 1926.

Resolution No. 1.

The following resolution is submitted by the Pottawatomie County Medical Society for the consideration and adoption by the Oklahoma State Medical Association:

That, this Association go on record endorsing the efforts of the University of Oklahoma, in its program of Post Graduate Medical Courses offered to doctors of Oklahoma, which is a joint program between the School of Medicine and the Extension Department.

Further, that the purpose of the University program seems to be for the improvement of the standards of medical practice in this State by bringing into Oklahoma, Specialists with an established reputation, from various Medical Centers, from outside the State, to give courses in the several branches of Medicine, in which the most repeated and rapid changes are occurring.

That, ~~based upon~~ the high standard of instruction and the type of courses already given and now being given in several Oklahoma cities, this Association recommends to its membership throughout the State, that wherever possible they avail themselves of the opportunity for Post Graduate study in these courses.

Further, this Association recommends that the various County Medical Societies of Oklahoma will do well to call upon the University of Okla-

homa and bring these courses to their respective counties for the benefit of their membership.

W. M. GALLAHER, M.D., Secretary.
J. H. SCOTT, President.

Your Committee on Resolutions recommends the adoption of the above resolution.

J. M. BYRUM.
McLAIN ROGERS.
L. C. KUYRKENDALL.

Resolution adopted.

Resolution No. 2.

Introduced by Dr. C. A. Thompson, Muskogee.

AMERICAN LEGION VACATIONS.

Whereas, The American Legion proposes to hold its Ninth Annual Convention in Paris, France, during September, 1927, and

Whereas, this Convention is of interest to more than 4,000,000 veterans who gave patriotic service during the World War, 30,000 of whom will probably make the trip to France with the Legion in 1927, and

Whereas, President Coolidge has given the Convention his hearty endorsement and the Government of France has issued a cordial invitation to the veterans of the United States, that they make a sacred pilgrimage to the graves of their comrades on the soil of France, and

Whereas, it is needful that this Convention be representative of the entire nation, drawing its membership from all economic classes which gave service during the World War, and

Whereas, it will require at least four weeks to make the journey to France and back, a longer vacation time than the average ex-service man can normally obtain, and

Whereas, employers in all parts of the country are cooperating with their ex-service employes in enabling them to have definite assurance of at least four weeks vacation in 1927.

Therefore, Be It Resolved, that the Oklahoma State Medical Association in Convention assembled endorse the France Convention of The American Legion and urge employers, wherever possible, to cooperate with their employes in granting at least four weeks' vacation during 1927, thereby making it possible for thousands of men who served the nation unselfishly during the World War to join a great pilgrimage back to the scenes of their conquest, where they will pay solemn tribute to the heroes of America buried in a foreign land, and on the occasion of the tenth anniversary of the entry of the United States into the World War, through the convention of the American Legion in Paris, rededicate themselves to the ideals of freedom and democracy for which the war was fought.

Your Committee on Resolutions recommends the adoption of the above resolution.

J. M. BYRUM.
McLAIN ROGERS.
L. C. KUYRKENDALL.

Resolution adopted.

Resolution No. 3.

Whereas, there has grown up in the Courts of the Country, a Medico-legal system which is subject to just criticism, in that reputable physicians and surgeons of high standing in the profession are often arrayed against each other in

Medico-legal contests in such manner that there may often be cast a doubt as to the true intention of the Medical Expert,

Therefore, Be It Resolved, by the House of Delegates of the Oklahoma State Medical Association now in session in Oklahoma City, that it shall be considered unethical for any of its members within the State of Oklahoma to serve as an Expert Medical witness in any Court of said State, except he be appointed by the Court as an impartial Medical Expert.

Be It Further Resolved, that copies of this Resolution be furnished each County Medical Society within the State, the Press of the State, the Bar Associations of the State, and the Courts of the State for their guidance.

Your Committee on Resolutions recommends the adoption of the above resolution.

J. M. BYRUM.

McLAIN ROGERS.

L. C. KUYRKENDALL.

Resolution adopted.

It was moved by Dr. F. M. Adams of Vinita, that a Special Committee be appointed to confer with the State Bar Association with the view of securing legislation dealing specifically with Insane cases in Court in which physicians are called as expert witnesses to the end that such witnesses shall be called by the Court in an impartial manner so far as the plaintiff and defendant are concerned.

Motion was endorsed by the Committee and carried.

Note—This motion does not supplant the original resolution nor does it delay its going into effect, but is merely a step to secure legislation on the subject in the coming legislation. The resolution deals only with Ethics in Civil matters.

Resolution No. 4.

By J. M. Byrum, Shawnee, Secretary, Board of Medical Examiners.

Whereas, a recent decision of the Criminal Court of Appeals in the case of Ex Parte Pope, known as the "Real Estate Case," was concluded as follows:

"We hold therefore—First, That the Real Estate Commission Act, Chapter 129, Session Laws of Oklahoma, 1925, created no special fund subject to public supervision, or otherwise; Second, that no valid appropriation of funds was made, within the meaning of Section 55, Article 5, of the Constitution; and Third, that it is against public policy to operate a department of state not supported by public funds pursuant to a valid appropriation; and that for these reasons the whole act is inoperative and void."

This decision of the Courts has thrown doubt on the constitutionality of a great many other laws, among which are the laws creating the Pharmacy Board, the Dental Board, the Nurses Board, and the State Board of Medical Examiners and that legislation becomes imperative in the next session of the State Legislature if these boards expect to continue to function as originally intended.

WHEREFORE, be it resolved by the House of Delegates of the Oklahoma State Medical Association now in session in Oklahoma City that the Legislative Committee of the Oklahoma State Medical Association be instructed to attempt to secure such amendments to the present medical

laws of this state as will render the said medical laws constitutional, and that the said Legislative Committee be required to cooperate in securing enactment of such laws as will adequately promote the professions of Pharmacy, Dentistry and Nursing in like manner.

Be It Further Resolved, that the Legislative Committee be directed to support an amendment to the medical law, providing that medical students, at the end of their first two-years of medicine, may be permitted to take examination in the subjects completed, and that examinations be given in additional subjects upon the completion of the four-year medical course, and that if thought wise by the Board of Examiners at any time, a year of internship in an approved hospital be required before granting the medical license.

Be It Further Resolved, that the membership of the Association throughout the State be requested to cooperate actively with the Legislative Committee of this Association in securing this and such other medical and public health legislation as may be approved by the Officers of the Association.

Your committee on Resolutions recommends the adoption of the above resolution.

J. M. BYRUM.

McLAIN ROGERS.

L. C. KUYRKENDALL.

Resolution adopted.

Resolution No. 6.

Introduced by Dr. T. D. Rowland, Shawnee.

CONTRACT AND INDUSTRIAL PRACTICE.

Whereas, Contract and Industrial practice is growing and developing to such an extent in Oklahoma; and

Whereas, the practice as at present conducted, seems in many instances to militate against the patient's having any personal choice as to his physician or surgeon, after being unnecessarily transported far away from the association of family and friends; and

Whereas, many capable ethical physicians seem not to be receiving just consideration in the care of their own clientele who happen to be receiving medical and surgical attention after being almost alienated therefrom, under the present system; and

Whereas, the American Medical Association is active in studying this vexing question from an ethical and practical standpoint; therefore

Be It Resolved by the House of Delegates of the Oklahoma State Medical Association in its 1926 session in Oklahoma City assembled, that a Standing Committee on "Contract and Industrial Practice" be created for the purpose of research and study of all the features of the subject during the coming year and to make complete report of their findings and recommendations in the 1927 annual meeting of the Association, to the end that this State Association may actively cooperate with the American Medical Association in the solution of the question involved.

Your Committee on Resolutions recommends the adoption of the above resolution.

J. M. BYRUM.

McLAIN ROGERS.

L. C. KUYRKENDALL.

Resolution adopted.

Resolution No. 7.

Whereas, the Oklahoma County Medical Society has exerted itself to an unusual degree in the entertainment of this session of the State Medical Association in that the various component bodies of the Association of the Hall of Exhibits have all been adequately cared for within one building, the elegant, spacious Masonic Temple; and

Whereas, the staffs of the various hospitals of the City have been generous in holding Clinics

in all branches of Medicine and Surgery, with much beneficial results to the Association; and

Whereas, many other courtesies have been extended by the membership, collectively and individually, of the said County Society, by the Oklahoma City Public Health Nursing Association, the public press of the City and especially the management of the Masonic Temple,

Therefore, Be It Resolved by the House of Delegates of the State Medical Association now assembled in Oklahoma City that our sincere

REPORT OF EXAMINATION FOR LICENSES TO PRACTICE MEDICINE

OKLAHOMA BOARD OF MEDICAL EXAMINERS

Report of examination held at State Capitol, Senate Chamber, Oklahoma City, Okla., June 15th and 16th, 1926; number of subjects examined in, 12; total number of questions, 120; number passed, 41; number failed, none. All applicants, regular school of practice, and licensed by written examination. The following applicants passed:

Name	Year of Birth	Place of Birth	School of Graduation	Year of Graduation	Home Address of Previous Location
Wilson Davis Baird, Jr.	1901	Altus, Okla.	Oklahoma Univ.	1926	Stroud, Okla.
Russell F. Bonham	1901	Cordell, Okla.	Oklahoma Univ.	1926	Cordell, Okla.
Siegfried Herman Brauer	1899	Freeman, S. D.	Oklahoma Univ.	1926	Norman, Okla.
Alwin Marshall Clarkson	1903	Manchester, Tex.	Oklahoma Univ.	1926	Valliant, Okla.
Herbert Dale Collins	1901	Panama, Okla.	Oklahoma Univ.	1926	Panama, Okla.
Edwin Earl Connor	1898	Marlin, Tex.	Oklahoma Univ.	1926	Mangum, Okla.
William Forest Dean	1898	Atoka, Okla.	Oklahoma Univ.	1926	Atoka, Okla.
Adena Catherine Dutton	1900	Waucomba, Ill.	Oklahoma Univ.	1926	Oklahoma City
Chancey Henry Dolph	1896	Brownsville, Tex.	Oklahoma Univ.	1926	Oklahoma City
Fredein Griffin Dorwart	1893	Newport, Pa.	Virginia Univ.	1924	Muskogee, Okla.
Roy Edgar Emanuel	1901	Texas	Oklahoma Univ.	1926	Chickasha, Okla.
Jesse Franklin Estes	1902	Texas	Oklahoma Univ.	1926	Shawnee, Okla.
Thomas Gordon Forsythe	1896	Sa. Louis, Mo.	Oklahoma Univ.	1926	Oklahoma City
William Wade Fox	1899	Oklahoma City	Oklahoma Univ.	1926	Norman, Okla.
Robert Norvell Graham	1898	Nixon, Tex.	Oklahoma Univ.	1926	Oklahoma City
James W. Hendrick	1900	Texas	Indiana Univ.	1926	Oklahoma City
Colvern D. Henry	1899	Lamasco, Tex.	Oklahoma Univ.	1926	Oklahoma City
Mary Mitchell Henry	1900	Denton, Tex.	Oklahoma Univ.	1926	Oklahoma City
Joshua V. Hyer	1901	Unionville, Mo.	Oklahoma Univ.	1926	Cheyenne, Okla.
Alpha Louis Johnson	1902	McPherson, Kan.	Oklahoma Univ.	1926	El Reno, Okla.
Joseph W. Kelso	1899	Sewel, Ia.	Iowa Univ.	1925	Corydon, Iowa
George Henry Kimball	1899	Jennings, Okla.	Oklahoma Univ.	1926	Jennings, Okla.
Russell Hugh Lynch	1895	Hennessey, Okla.	Oklahoma Univ.	1926	Hennessey, Okla.
Lawrence Chester McHenry	1901	Princeton, Mo.	Harvard Univ.	1925	Oklahoma City
Guy Oliver McKeehan	1899	Catoosa, Okla.	Oklahoma Univ.	1926	Broken Arrow, Okla.
James Floyd Moorman	1900	Litchfield, Ky.	Louisville Univ.	1926	Oklahoma City
Donovan Dillon Mosher	1895	Indianola, Iowa	Oklahoma Univ.	1926	Wagoner, Okla.
Daniel L. Perry	1900	Arkansas	Oklahoma Univ.	1926	Tulsa, Okla.
Hugh Perry	1902	Branch, Ark.	Oklahoma Univ.	1926	Tulsa, Okla.
Oscar S. Pyle	1900	Columbia, Ky.	Oklahoma Univ.	1926	Nashville, Tenn.
William Frank Renfrow	1901	Billings, Okla.	Oklahoma Univ.	1926	Billings, Okla.
Robert Eugene Roberts	1902	Frederick, Okla.	Oklahoma Univ.	1926	Frederick, Okla.
Fenton Almer Sanger	1898	Oklahoma City	Oklahoma Univ.	1926	Oklahoma City
Dwight B. Shaw	1898	Pratt, Kan.	Oklahoma Univ.	1926	Wilmington, Del.
Forrest LeRoy Stratton	1903	Robinson, Ill.	Oklahoma Univ.	1926	Oklahoma City
Clayton King Stroup	1902	Russell Spgs. Kan.	Oklahoma Univ.	1926	Detroit, Mich.
Benjamin Douglas Thompson	1896	Henderson, Tex.	Oklahoma Univ.	1926	Mangum, Okla.
Everett Parker Veatch	1901	Capron, Okla.	Oklahoma Univ.	1926	Oklahoma City
Mallalieu McCullaugh Wickham	1885	Virginia	Oklahoma Univ.	1926	Norman, Okla.
Dora Doty Wildman	1902	Homestead, Okla.	Oklahoma Univ.	1926	Oklahoma City
Louis Edgar Woods	1894	Dyer, Tenn.	Oklahoma Univ.	1926	Altus, Okla.
William Carver Wright	1888	Farmersville, Tex.	Texas Univ.	1913	Farmersville, Tex.
Edmund Marcellus Cowart	1899	Wellman, Miss.	Pennsylvania Uni	1922	
Ashley Cooper Shuler	1897	Cameron, Okla.	Tennessee Univ.	1925	Durant, Okla.
William Garrison Hancock	1886	Milo, Ark.	Arkansas Univ.	1915	Alikchi, Okla.
Ben Morgan	1883	The Dalles, Oreg.	Chi. Col. M. & S	1914	Tulsa, Okla.

This is a list of licenses granted in the recent meeting of the Board. The last five are by reciprocity; one was rejected and several were held over for further investigation.

J. M. BYNUM, Secretary.

thanks be extended to the Oklahoma County Medical Society for its painstaking care and zeal in making this session of the Oklahoma State Medical Association so profitable and pleasant, the Hospitals for their wonderful scientific clinics, to the members of the Oklahoma City Public Health Nursing Association, the press of the City for active cooperation in behalf of the entertainment of our organization and especially do we thank the management of the Masonic Temple for numerous courtesies and conveniences extended us. While extending these resolutions we hereby promise to renew our acquaintance and avail ourselves of the splendid entertainment again in the early future.

Your Committee on Resolutions recommends the adoption of the above resolution.

J. M. BYRUM.
McLAIN ROGERS.
L. C. KUYRKENDALL.

Resolution adopted.

MEETING EMERGENCIES

Associated with many present-day emergencies in which the health of a community is concerned, in which, perhaps, the lives of many persons are in jeopardy,—are hurry calls from physicians for biological products.

The discovery of smallpox in a neighborhood and vaccination by the wholesale; an explosion, such as occurred at Lake Denmark, N. J., where the possibility of many cases of tetanus threatened; an outbreak of diphtheria in a school or community; a mad-dog scare—all these are emergencies in meeting which the medical profession is depending more and more upon the administration of biological products.

Physicians in most instances, even in private practice, want immediate service in this form of treatment. They wish to be sure of the potency of these biologics and they depend in nearly every instance upon pharmacists to provide ready and effective cooperation in both quality and service.

In consideration of these demands, many of them amounting to emergency proportions, E. R. Squibb & Sons are providing greater facilities for furnishing both the medical and the pharmaceutical professions with the products whose delivery in the shortest possible time may save innumerable lives.

Through its depots that are being opened in various cities throughout the United States, the House of Squibb is providing sources of supply for arsphenamines, insulin and biological products, kept under proper refrigeration and quickly available at any hour to the physicians and the pharmacists of the respective neighborhoods.

Thus far depots have been established as follows:

New Orleans, La.—Depot at 402 Queen and Crescent Building, 344 Camp Street.

Pittsburgh, Pa.—Depot at 604 Maloney Building, 339 Second Avenue.

Minneapolis, Minn.—Depot at 237 Transportation Building, 317 Second Avenue, South.

Seattle, Wash.—Depot at 216-217 Cray Building, Fifth and Union Streets.

Baltimore, Md.—Depot at 1027 Munsey Building, 5 North Calvert Street.

Additional depots with similar facilities are being planned for Los Angeles and Boston.

Similar service will, of course, continue to be provided to pharmacists and physicians through the New York office, 80 Beekman Street, and through the various branches, located as follows:

Chicago, Ill., at 323 West Lake Street; San Francisco, Calif., at 608 Folsom Street; Kansas City, Mo., at 706 Delaware Street; Atlanta, Ga., at 270-272 Ivy Street.

Pharmacists should advise their physicians of these exceptional facilities, the greatest value of which will be apparent in emergencies where, upon early delivery, may depend the life of one or many persons. Make a note of the nearest Squibb depot or branch. Every progressive pharmacist should talk it over with the Squibb representative in his territory so that when that emergency arises there will be no confusion, no lost motion but simply an immediate call for the product needed and equally prompt delivery.

IDENTIFYING THE COUNTRY DOCTOR.

DR. R. E. WILSON, Davidson, Oklahoma.

If you often go out to a farm
And set a badly fractured arm,
With a few bandages and a board;
If you drive ten miles thru the heat
To relieve the child of a dead-beat
And have to change tires on the road;
If at night, you often perform,
(While Grand-Ma gives the chloroform),
An emergency, surgical operation;
If you toil from house to house
And finally die poor as a church-mouse
Then 'Country-Doctor' is your occupation.

If you get up in the night
And stumble around without a light,
To answer a hurried, telephone call;
If your wife forbids you to swear,
When you fall down over a chair
And hit your nose against the wall;
If you work 'til your health is wrecked
And your bills, you can't collect,
While you rattle around in an old car;
If people love you during their ills,
But hate you, when you present their bills,
Then a "Country Doctor" is what you are.

If you treat everybody like sisters and brothers
And you live for the good of others—
Altruism being your morning star;
If you spend a long and useful life
Amid conflict and strife—
Answering calls both near and far;
If you are always on the go
Thru the blizzard and the snow—
No kind of weather, do you bar;
If you have little that good times make
And you bury your worst mistakes,
Then a "Country Doctor" is what you are.

BUREAU OF MATERNITY AND INFANCY STATE DEPARTMENT OF PUBLIC HEALTH OF OKLAHOMA

LUCILE SPIRE BLACHLY, M. D., Director

Report of the Bureau of Maternity and Infancy for the fiscal year ending June 30, 1926:

Staff—(full time).

Director—Lucile Spire Blachly, M.D.

State Nurses—Ida Lee, R.N.; Golda B. Slief, R.N.; Mary DeLaskey, R.N.; Flo Ann Mueller, R.N.; A. Beulah Goad, R.N.; Luis G. Todd, R.N.; Saidee N. Hausmann, R.N.

Note—Miss Todd resigned in the early spring. She was succeeded by Mrs. Hausmann temporarily.

Secretary—Miss Lenore Hunter.

Clerk (full time)—Miss Betty Mae Renshaw.

Vital Statistics—Gus Bethel.

Part time—Vital Statistics clerks, stenographers, office boys, temporary nurses.

Counties using Maternity and Infancy Funds aside from M. & I. equipment—Ottawa, LeFlore, McCurtain, Muskogee, Kay.

Activities—Child health conferences, mother-child classes for mothers, and teachers in training, child care classes for high and junior high school girls, assistance with the postgraduate courses in pediatrics and internal medicine conducted by the Extension Department of the University of Oklahoma; organization of health centers, making surveys, distribution of literature on prenatal, infant and child care to expectant mothers and the mothers of young children; attendance at the county and state fairs; demonstrations and exhibits, talks and moving pictures, institutes and the preparation of exhibit material, lectures, charts and pamphlets.

ACTIVITIES CLASSIFIED

(State Staff Only)

No. child health conferences, 41.

No. children examined, 797.

No. defects found, 2110.

Percentage found vaccinated against small pox, 5.

Percentage found immunized against diphtheria, 1.

Percentage found immunized against scarlet fever, none.

Child care classes in schools, 37.

No. girls enrolled, 1398.

No. girls completing course, 1393.

No. lessons in course, 5.

Mother-child classes for mothers, 19.

No. mothers enrolled, 250.

No. completing course, 228.

No. lessons in course, 6.

Mother-child-care classes for Teachers in Training, 12.

No. teachers enrolled, 537.

No. completing course by June 30, 354.

No. still on the rolls for July, 181.

No. lessons in course, 18.

No. interviews with expectant mothers relative to prenatal, infant and child care, 4427.

No. permanent health centers established, 2.

No. talks and lectures by state staff, 1766.

No. group demonstrations in prenatal, infant and child care, 454.

Approximate No. pamphlets distributed: State, 230,000; Federal, 65,000.

No. new names placed on register for prenatal letters, 11,219.

No. exhibits shown, 58.

No. state, county and district fairs visited, 58.

New exhibits prepared—"The Pre-School Exhibit" (especially designed for Parent-Teacher associations).

New Literature—"Feeding Charts for Pre-School Child," three in number, viz. from 1 to 2 years, from 2 to 4 years and from 4 to 6 years..

COUNTY UNIT M. & I. ACTIVITIES

The amount of Maternity and Infancy work done in the county units in the very short time at their disposal following the closing of the school is remarkable. Briefly the large part of their activities is as follows:

No. child health conferences, 49.

No. children in attendance, 837.

No. mother classes organized, 6.

No. mothers enrolled, 76.

No. lectures in each class, 6.

No. home visits, 1050.

No. cases seen, 1,148, to-wit: (a) prenatal, 116; (b) obstetrical, 45; (c) postnatal 349; (d) infant, 215; (e) pre-school, 423.

Talks and group demonstrations, 10.

Classes in nutrition, 14.

Permanent child health centers established in McCurtain, Kay and Muskogee (charities and corrections).

Much time is given to vital statistics with satisfactory results, midwife surveys made and in Ottawa county a free ward for indigent, sick children obtained through the courtesy of the Baptist General Hospital. A total of 1608 prenatal names have been sent in from these counties.

The aims of the state staff of the Bureau of Maternity and Infancy and that of the county units differ in some degree. In the former, the chief aim is to inspire the professional and lay public to look upon obstetrics and pediatrics as very vital matters that should be dealt with intelligently, reverently and consistently; in other words, to elevate motherhood practically, physically and economically to that place it has always held in poetry, art and religion; in other words, to develop leaders, professional and otherwise. The chief aim of the county units is to reach the needy mother with the proper information NOW. The state staff hopes its activities, wide-spread as they must be, will help all the individual counties to see the need of extending special educational assistance to their eager, untaught, physically and mentally handicapped mothers who are trying desperately but against great odds to give their communities a citizenship sound in body and mind. That this can be done has been definitely proved by those county units long enough in existence to have established maternity and infancy work.

OFFICERS OKLAHOMA STATE MEDICAL ASSOCIATION

President, 1926-27, Dr. A. S. Risser, Blackwell
 President-elect, Dr. J. S. Fulton, Atoka.
 First Vice-President, Dr. Ross D. Long, Oklahoma City.
 Second Vice-President, Dr. Fred S. Clinton, Tulsa.
 Third Vice-President, Dr. Walter A. Howard, Chelsea.
 Secretary-Treasurer-Editor, Dr. Claude A. Thompson, Barnes Bldg., Muskogee.
 Meeting Place, 1927, Muskogee.
 Delegates to the A. M. A., Dr. W. Albert Cook, Tulsa, 1927-28; Dr. Everett S. Lain, Oklahoma City, 1927-28.

CHAIRMAN OF SCIENTIFIC SECTIONS

General Medicine, Neurology, Pathology and Bacteriology. Chairman, Dr. Leonard C. Williams, Pawhuska; Secretary, Dr. L. A. Mitchell, Stillwater.

Eye, Ear, Nose and Throat. Chairman, Dr. Charles H. Haralson, New Wright Bldg., Tulsa; Secretary, Dr. Frank R. Vieregg, Medical Arts Bldg., Oklahoma City.

Surgery and Gynecology. Chairman, Dr. A. W. Pigford, Palace Bldg., Tulsa; Secretary, Dr. I. N. Tucker, Daniel Bldg., Tulsa.

Obstetrics and Pediatrics. Chairman, Dr. C. V. Rice, Barnes Bldg., Muskogee; Secretary, Dr. W. A. Dean, Masonic Temple, Tulsa.

Genito-Urinary, Dermatology and Radiology—

COUNCILORS AND THEIR COUNTIES

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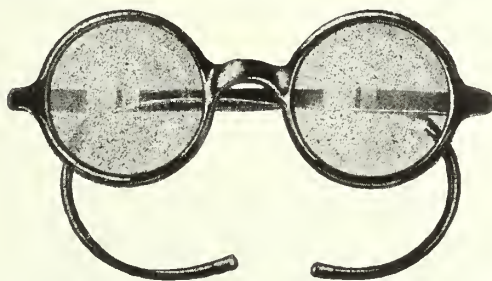
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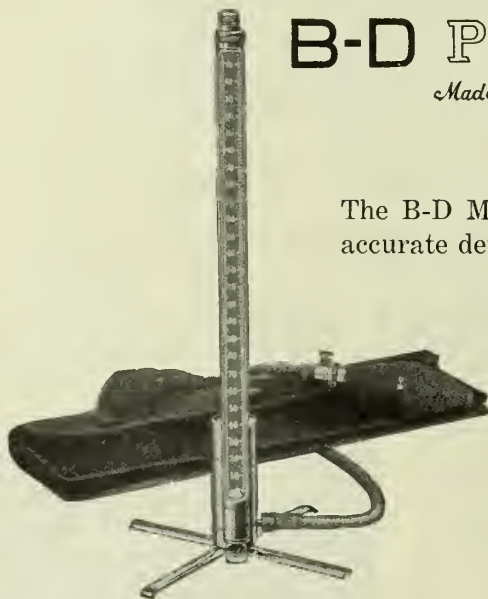
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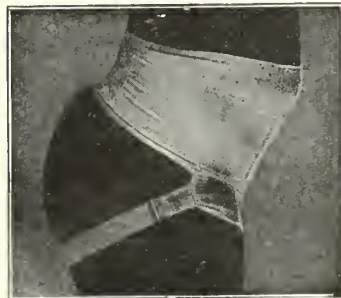
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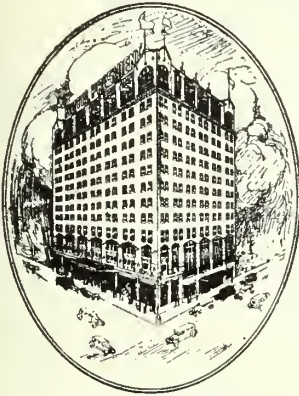
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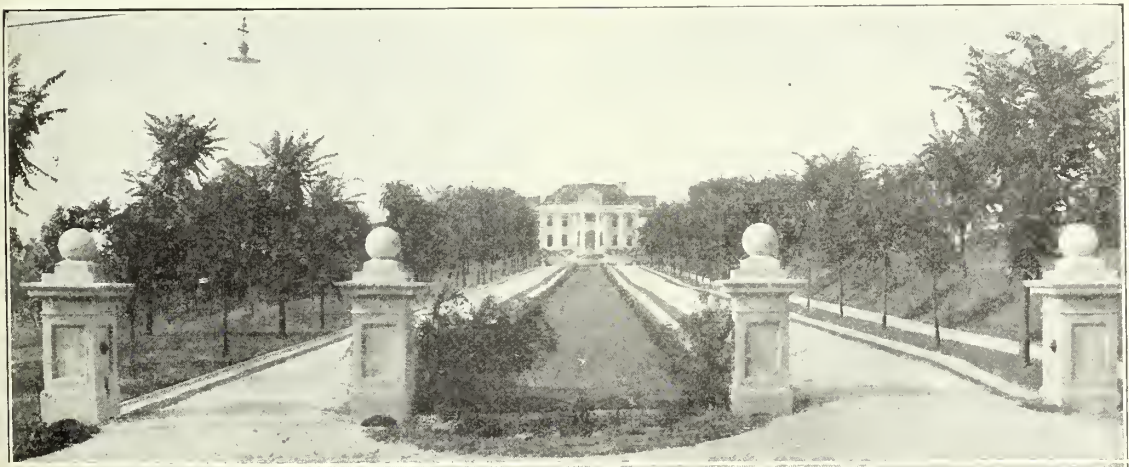
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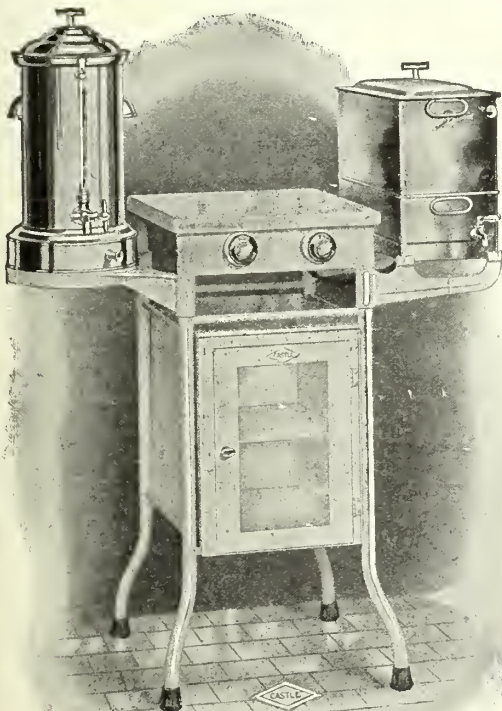
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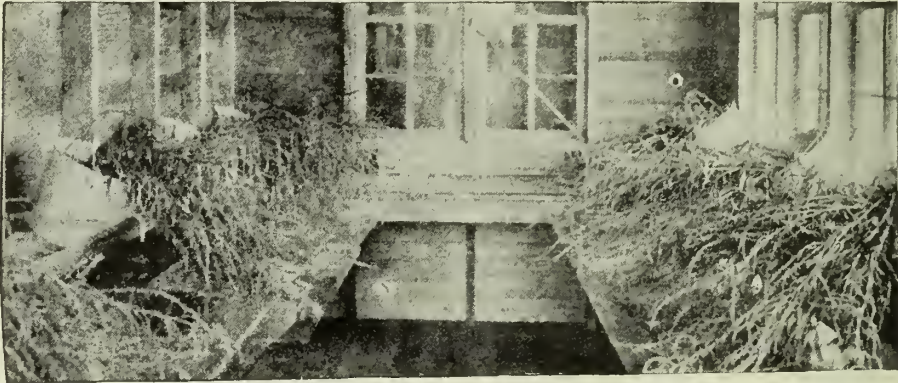
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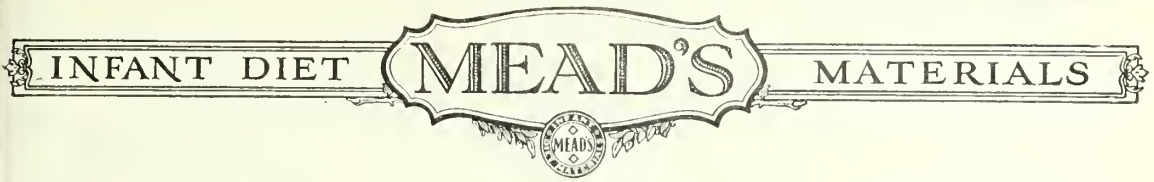
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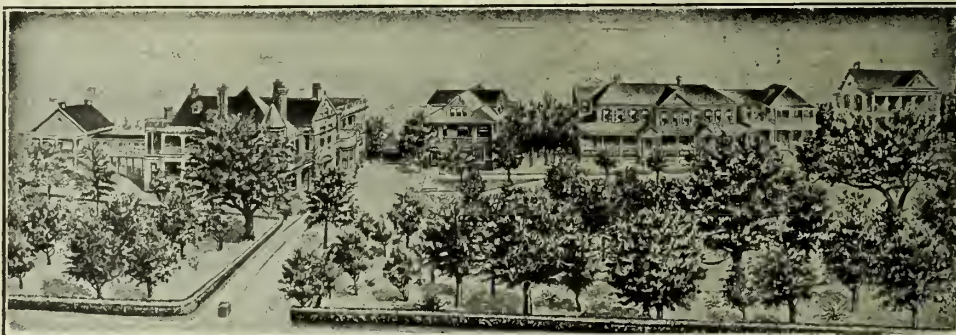
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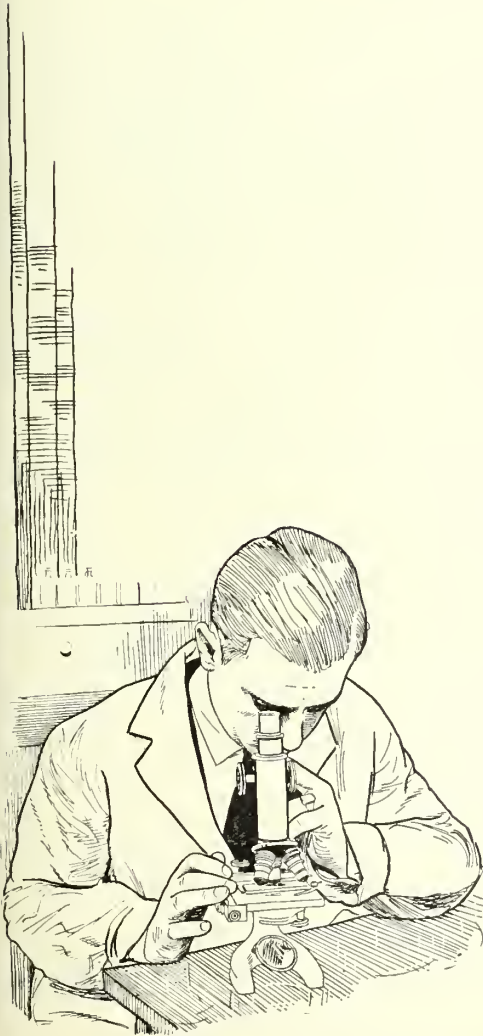
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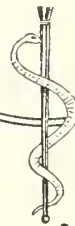
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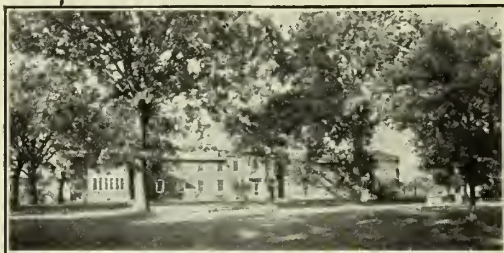
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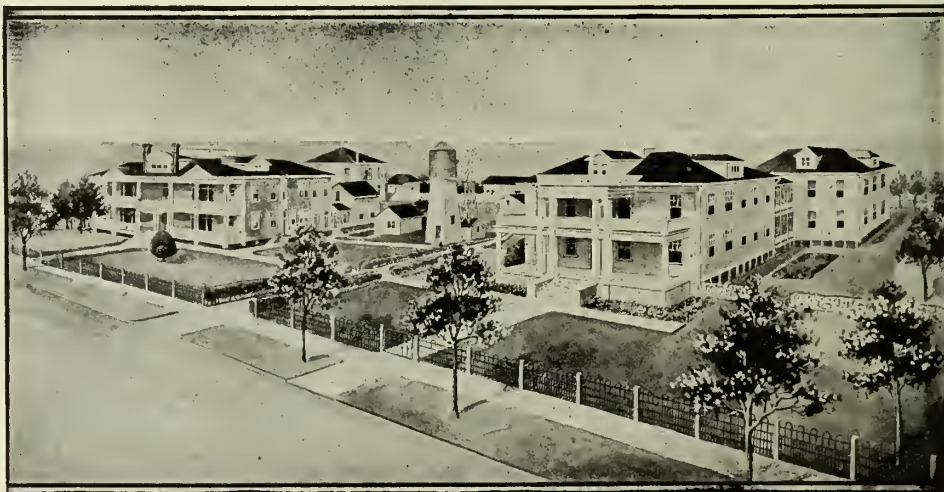
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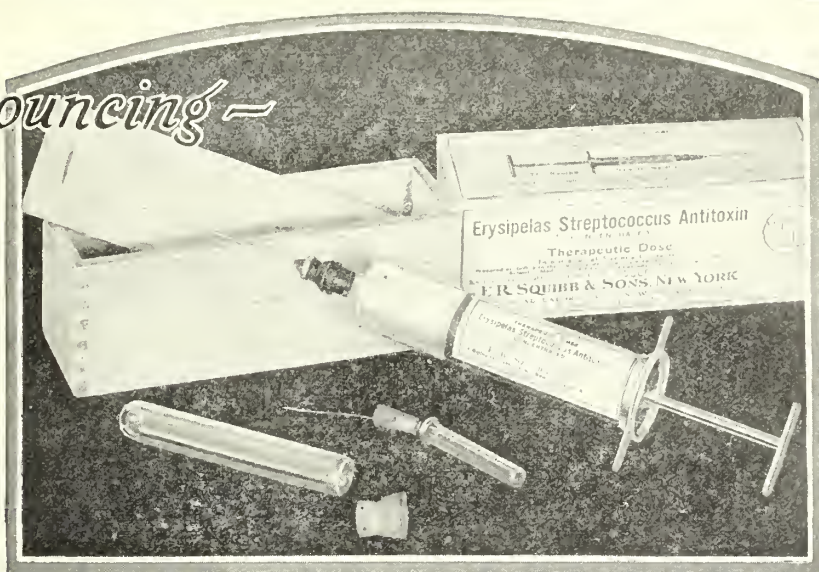
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DUODENAL ULCER; DIFFERENTIAL DIAGNOSIS*

G. A. WALL, M.D.
TULSA

Draw a line from the umbilicus to the junction of the cartilages of the 7th and 8th ribs on the right side and use the point where this line crosses the right parasternal line as the axis of a circle, the radius of which is three inches, and you will find within this circle the four important organs of beginning digestion, viz: the stomach and duodenum, the gallbladder and duct, part of the liver and its ducts and the pancreas and its ducts. From the very close anatomical and physiological relationship of these organs, all of which are factors in right upper abdominal pain, we can readily see that oftentimes the diagnosis of duodenal ulcer may become quite difficult, and this applies whether the ulcer is simple, chronic, or acute perforative.

Were the instances not so frequent where one or all of these organs were not more or less involved in pathology, then a diagnosis could be more easily made between cholecystitis, cholangitis and pancreatic disease. Were the symptoms always as pronounced as they usually are in acute cholelithiasis and appendicitis, then a diagnosis would be a small matter; but all the symptoms of duodenal ulcer may be present and the most painstaking examination will negative any ulcer presence. A few years ago while on a visit to a large clinic, one of the operators read a very splendid history and examination report, and stated that he was going to do a gastroenterostomy for duodenal ulcer. After opening the abdomen he searched in vain for the ulcer but none could be found. He removed a chronic appendix and said that no doubt, but that it was the cause of all the symptoms and he expected the case to get entirely well. If this large clinic, with

all its high-priced ability and unstinted laboratory service, errs in its diagnosis, then we must grant that the differential diagnosis is not so easy. The writer has in mind a case recently seen where the patient had all the so-called ulcer symptoms, including hunger pain, and the whole history pointed to a duodenal ulcer. A very thorough examination was made, including a test meal and barium X-ray of the intestinal tract, also a microscopic examination of the stools, but no evidence of ulcer could be found.

The appendiceal region showed some abnormal condition under the meal and he was told that he probably had a chronic appendicitis and consented to its removal. The appendix was found bound down by a mass of cobweb adhesions and was deformed and kinked. It was removed and the man got entirely well of all his abdominal pain. An examination of the stomach at operation showed it to be absolutely devoid of pathology.

Deformity of the cap is considered, in most instances, a reliable sign of duodenal ulcer, but it may be a misleading one, since the same condition may be caused by some inflammatory trouble about the gall ducts. Moynihan's hunger pain is a very helpful aid, but it is not always constant and may be present where no duodenal ulcer is found. Great stress has in the past been laid on the high HCL content of the gastric juices in this condition. Deaver and his associates have shown that the HCL content may be sub- or normal and still duodenal ulcer was found at operation. Occult blood may be found and still there is plenty of chance for it to come from somewhere else than the duodenum or upper digestive tract. In all cases where occult blood is found we should rule out renal and hepatic disease. When melena is present we should always think of malignancy somewhere in the intestinal tract. It is only possible to go very briefly into the symptoms of the various conditions with which this disease may be confounded, because of time.

*Read before the Section on Surgery and Gynecology, Annual Meeting, Oklahoma State Medical Association, Oklahoma City, June 22, 23, 24, 1926.

DUODENAL ULCER

Usually a disease of middle life, occurring most frequently in the male and during its early stages probably without symptoms. Clinically we base our diagnosis on the pain, its location and character, and the digestive disturbances which go with it; many patients say that they have indigestion all their life. The pain is of a boring or gnawing character, and when localized, is usually found to the right of the umbilicus and below. Tenderness may or may not be present at the region of the ulcer. Hunger pain when present is a valuable aid. Some authorities state that impaired health is a corroborative symptom, but I am very sure that you will agree with me when I say, that patients with proven duodenal ulcer often look the picture of perfect health. I would rather think that if the general health was failing that we should suspect a malignancy.

With the help of the X-ray we should be able to diagnose most of these cases; when we find the niche or bulbar deformity we should suspect duodenal ulcer. If obstruction is present and does not permit the filling of the bulb, and we find the combination of a large stomach of normal contour, with a six-hour retention and hyperperistalsis, we should consider this diagnostic of duodenal ulcer.

GASTRIC ULCER

Pain severe and localized over the stomach, markedly increased by the ingestion of food, emptying the stomach gives relief; low HCL contents present; hemorrhage a late sign but not always may it point to ulcer, since malignancy about the gallbladder and ducts may cause the most frightful hemorrhages. Some years ago I saw a man in middle life who had the most alarming gastric hemorrhages who finally died refusing operation; an autopsy showed gallbladder disease with stones and cancer of the liver. According to Carman, gastric ulcer has but one sign upon which the diagnosis can be made with confidence. This is the barium filled crater of the ulcer, called the niche. If it is on the posterior wall, the crater may be revealed as a circumscribed area of increased density, best seen by palpatory approximation of the walls of the stomach. Other signs, such as more than six-hour retention, fixation and anomalies of peristalsis are not constant and have other causes than ulcer.

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ACUTE PANCREATITIS

There should be no difficulty in separating this disease from simple ulcer, but when perforation occurs it is a different matter; in both conditions the localization of the pain is in the epigastric region, attended with shock, sometimes with collapse, cyanosis, painful vomiting, tenderness and marked muscular rigidity. In acute pancreatitis, while the patient looks pale and faint and has an anxious expression appearing to be in collapse still, the pulse remains slow and its quality not much impaired; palpation of the abdomen is resented and muscular rigidity is perhaps greater than in ulcer.

ACUTE PERFORATIVE APPENDICITIS

At times it may be quite difficult to differentiate between this disease and perforated duodenal ulcer, since in both, the attacks begin very abruptly with acute pain referred to the epigastrium, or whole abdomen, but in this disease the pain is localized in the R.L.Q., and most boardlike rigidity is usually present. A clearly interpreted history will be of great value. The indigestion is hardly of the ulcer type and may be absent; a history of chronic constipation will probably be found. A differential blood count will be of great help, since in these cases the count usually runs very high in the beginning, while in ulcer it may be normal or only slightly increased. The point of greatest tenderness will be at McBurney's point, until a diffuse peritonitis comes on, when the local tenderness will be marked and the whole abdomen will be sore and rigid. A history of purgation in the early stages of the attack will be a valuable aid in diagnosis, since practically every case of perforative appendicitis will have been freely purged by relatives or attending physician, which, if left unpurged would have been nothing more than a large inflamed appendix. Let us again impress on every one the fact that the promiscuous use of purgatives in the early stages of acute abdominal conditions, is a mortal sin until we have absolutely ruled out appendiceal disease.

CHOLELITHIASIS

There is small chance to confuse this condition with ulcer. The digestive symptoms are similar, but the pain is entirely

different in both location and character. The pain is severe and cutting in character, and usually radiates around toward the right shoulder. Emptying the stomach gives relief in many instances, but if the stone is impacted in the duct the pain will continue, provided the duct is contracting about it. Finally, do not overlook the abdominal crisis of locomotor ataxia for many a belly has been opened when this disease was the cause of the abdominal pain.

In conclusion, let us bear in mind that the diagnosis of right upper abdominal pain is a complex one, and even in the hands of highly experienced men with the best of laboratory aids at their disposal, a differential diagnosis may still be difficult. I am convinced that we are of late years placing too much dependence on the laboratory findings, and neglecting our clinical ones. A good clinical history, properly and skillfully interpreted will often-times place one on the right track, even though it may run contrawise to the laboratory findings. I do not wish to be understood as being a nonbeliever in the laboratory; on the contrary, I feel that in many cases of obscure character, it is absolutely necessary as an aid to a correct diagnosis. In the acute abdominal conditions, where immediate operation is surely demanded, it seems to me to be wholly a waste of time to wait any length of time for laboratory work, for we know that the best procedure is to look into the abdomen and see what's what. Exploratory operation is to all intents and purposes harmless if properly done. To be a good diagnostician, requires an extensive general experience, in order to separate the borderline cases of medicine and surgical aspect. I believe that of late years our recent graduates take up the specialties without sufficient foundation laid by some years of general practice, and depend too greatly on the laboratory for their diagnosis. This can hardly be to the credit of good surgery, and in the end leads to wrong diagnoses, followed by unnecessary operations and brings discredit to surgery.

DUODENAL ULCER AS A CAUSE OF PAIN IN RIGHT SIDE—SURGICAL TREATMENT*

HORACE REED, M.D., F.A.C.S.
OKLAHOMA CITY

On September 24, 1923, a middle aged man came to my office during the noon hour because of intense pain in upper right abdomen. The pain became suddenly intense only a few minutes previously, but he stated that he had had more than his usual amount of indigestion for a week or more previously. A rather hurried examination revealed some rigidity of the upper right rectus with the pain centering over the gall bladder and duodenal region. Perforating ulcer was at once suspected and the patient advised to go to the hospital. He went to a lunch counter instead and ate a bowl of vegetable soup, because, as he subsequently explained, he had found that eating or drinking would relieve the pain of indigestion.

He did not get relief, however, this time. He proceeded to his home and called a physician. I saw him again about 8 P.M. and although he had been given three quarter grain hyperdermics of morphine, he was in agonizing pain, and the whole of his abdomen presented a board like rigidity. He was taken to the hospital and an immediate operation performed. The perforation in duodenum was closed, and because of the large amount of induration in duodenum and pylorus a posterior gastroenterostomy was performed.

A unique finding in this case at operation, was a hunk of carot which projected into the perforation and almost completely occluded it. The free fluid in the accessible regions of abdomen was removed by sponge. The incision was closed without drain. Recovery was smooth and uneventful.

About two months ago a man of about 63 years, after having had intense indigestion for 10 days or two weeks, had an attack of violent pain in his abdomen and a call was broadcast for help. A member of one of the irregulars was the first to arrive. When one of our younger physicians arrived a little while later, the patient was being loaded into an ambulance preparatory to being taken to a Chiroprac-

*Read before the Section on Surgery and Gynecology, Annual Meeting, Oklahoma State Medical Association, Oklahoma City, June 22, 23, 24, 1926.

tic hospital. At the urgent request of the patient's wife the physician made an inspection of the abdomen and found evidence of an acute condition which centered in the gall bladder region. The patient proceeded to the Chiro hospital.

Some three days later the patient's wife called me on the phone and informed me that she was taking her husband to St. Anthony's Hospital and requested that I take charge of his treatment. I found the man presenting all the signs of extreme toxemia, with liver dullness absent and consolidation of lower half of left lung. Exploratory transpleural puncture on right side recovered foul smelling gas. Under local anesthesia a rib was resected and an enormous subphrenic abscess of right side was drained. Death occurred about 10 hours later and an autopsy revealed, as the primary pathology, a large perforation in the duodenum.

With only slight variation these two cases illustrate what will take place in perforating duodenal ulcer when managed properly or otherwise. In all cases operation should be done at once. Whether surgeons should do more than close the perforation and remove the irritating fluid from the accessible regions of the peritoneal cavity, is a question which must be answered in each individual case. A discussion of this phase of the question would not be appropriate at this time.

A duodenal ulcer may so nearly approach the serous surface of the gut as to result in the formation of adhesions to the gall bladder or other adjacent structures. Such adhesions are productive of right sided pain and other symptoms. The whole picture is usually more or less baffling. At one time the gall bladder symptoms may predominate while at another they more nearly approach those of the ulcer syndrome. But since surgery is usually indicated either in chronic gall bladder or chronic ulcer, the diagnostic quibbling should not be unduly prolonged.

Acute ulcer, and uncomplicated, still belongs to the internist. Symptomatic ulcer is often cured by removal of a diseased appendix, or perhaps, less frequently, by proper surgical attention to a diseased gall bladder.

Chronic ulcer, simple and uncomplicated, does not present in its symptoms syndrome a characteristic right sided pain. Such an ulcer may not remain uncomplicated indefinitely and its treatment may,

therefore, be briefly and properly considered here.

In my limited experience with perforating duodenal ulcer not one of my patients have had rigid medical management. On the other hand I have operated on a few number not ruptured who, in spite of a rigid medical treatment, derived little or no relief from such treatment. With scarcely an exception these patients were greatly relieved or symptomatically cured by operation. That is to say the operation marked the turning point toward improvement or cure under a continuation of the management. While I believe that rigid medical management will greatly lessen the tendency to complications, I have serious doubts that such management alone often, if ever, results in complete and permanent cure of chronic ulcer. The good results of gastro-enterostomy in chronic duodenal ulcer has been thoroughly attested. Why not, therefore, offer a gastro-enterostomy as a routine method in all cases which do not completely yield after a reasonable period of medical management. And if the victim is one who depends on the sweat of his brow for the bare sustenance of himself and family, as often is the case, why prolong the period of his semi-invalidism from season to season when a timely operation, supported by proper after-supervision will in a few weeks restore him to a full earning capacity again?

THE TREATMENT OF DUODENAL ULCER*

W. J. BRYAN, JR., M.D.
TULSA

The literature on the treatment of duodenal ulcer has become well filled with numerous diet schedules and well planned daily routines—all methods accompanied by very favorable statistics. These said methods vary from starvation and rectal feedings to the fairly free use of easily digested food, the greatest difference being in the first five to ten days of treatment. It will not be necessary to go into detail in outlining these methods due to the fact that every text book contains the full schedule and time is too short to discuss them.

*Read before the Section on Surgery and Gynecology, Annual Meeting, Oklahoma State Medical Association, Oklahoma City, June 22, 23, 24, 1926.

In this paper the treatment of this fairly common condition will be discussed under three headings—Prophylactic, Dietetic and Medicinal.

Prophylactically much can be done by carefully selecting a diet to prevent gastric or duodenal irritation and thereby prevent ulceration. When ulceration is present rigid dieting becomes necessary. Daily habits should be adjusted. An attempt should be made to have the patient regulate his daily life so that his meals are regular—especially caution against the one common gastric insult that is so prevalent—that is, bolting food. The hustle and bang of the American cafe stimulates one to eat in about the same speed. Well masticated food is necessary to good digestion. Then instruct them in the establishment of a regular stool habit. Good elimination is just as important to the body as good food.

If the patient is anemic correct the same through high caloric feeding, rest and the use of tonics. If severe anemia is present transfusion may be indicated. Since Rosenow's work suggests a foci of infection, with streptococcus as a cause for ulcer, all foci of infection should be cleaned up, especially pyorrhea, abscessed teeth, infected sinuses, tonsils, gall bladder and appendix. This theory, however, has by no means been absolutely proven, but ulcer cases and digestive disturbances are markedly benefited by removal of foci. The excessive use of alcohol, tobacco and condiments should be avoided. If one's work requires close confinement to home or office, exercises such as golf, tennis or walking should be advised.

Dietetic: The three most common dietetic schedules are those outlined by Lenhartz, Sippy and Von Leube. There are, however, numerous modifications of each routine.

The one important factor is to consider the case to be treated. There is no hard and fast rule that can be followed in all cases. One patient will do better on early and rather full feeding, as advocated by Lenhartz, and another will not show improvement until absolute gastric rest is obtained as recommended by Von Leube, while still other cases will show more rapid improvement on the Sippy routine. Results depend to a great extent on the age of the ulcer, excitability of the stomach—spasm, tendency to hemorrhage and nausea or vomiting. When nausea, vomiting or hemorrhage are outstanding symp-

toms gastric rest is indicated, using rectal feedings for three to four days or the Von Leube method. This may then be replaced by more liberal mouth feeding as in Sippy or Lenhartz methods. When nausea and vomiting are present feeding through the duodenal tube is at times indicated, as advised by Einhorn. There is no place in the treatment of ulcer for the use of the duodenal tube except in excessive nausea or vomiting, due to the fact that the tube, itself, will act as an irritant.

In the management of ulcer cases the presence of hydrochloric acid must be respected. This acid is in excess in a majority of cases and acts as an irritant and also stimulates gastro-duodenal peristalsis. There is often a marked increase in gastric distension and acidity when food by mouth is brought into use as in Von Leube method, this producing nausea and emesis, while in the Lenhartz method of feeding the food is quite likely to stimulate excessive production of acid. If a cure is obtained this excess acid is likely to produce a recurrence of said ulcer. The Sippy method, with the liberal use of alkalies keeps the acid absolutely neutralized and controls this factor in an entirely more satisfactory manner.

The following schedule has proven very satisfactory—The ulcer patient is put absolutely at rest. Rest is as necessary in ulcer cases as in diseases of heart, the period of rest depending on the case. As a rule three to four weeks is sufficient, gradually increasing exertions until a return to normal. An ice cap is placed to the epigastric area. The bowel function is maintained by the use of enemas, milk of magnesia or some alkaline water. Care should be used to have one good stool each day. The diet for the first ten days consists of whole milk, glass one, every hour from 7:00 A.M. until 7:00 P.M. A powder consisting of Sodium Bicarbonate gr. XX, Bismuth Subnitrate gr. X is given every two hours, from 7:30 A.M. to 7:30 P.M. Beginning at 8:30 A.M. and every two hours until 6:30 P.M., another powder of Sodium Bicarbonate gr. XX, heavy calcined Magnesia gr. V is given. Aspirations of the stomach contents should be made at intervals to see that the acidity is under control. If the acidity is not neutralized extra doses of Bismuth and Soda Bicarbonates are given at night.

On the tenth day, if all symptoms have subsided, cooked cereals, custards, tapioca

and rice and cream are added, these foods being given at 8:00 A.M., 12:00 P.M. and 6:00 P.M. Hourly milk feedings are continued, along with the same alkaline routine. If this diet is well tolerated, on the fifteenth day milk toast, baked potato, stewed fruits, cocoa, jello, ice cream and soft boiled eggs are added. These foods are given at the regular hours of 8:00 A.M., 12:00 P.M. and 6:00 P.M., with milk at 7, 9, 10, 11, 2, 3, 4, 5 and before bed. The alkalies are given at three hour intervals.

On the twentieth day asparagus, spinach, toast, creamed celery, minced chicken and butter are added. The milk feedings are reduced to six a day. The powders remain the same.

On the twenty-fifth day green beans, carrots, lamb-chops or fresh fish are added. At this time the alkalies are given at 8-10-12-4-6-8. This powder consists of Soda Bicarbonate gr. XX, Bismuth Subnitrate gr. X, heavy calcined Magnesia gr. V. Milk is given at 10-11-2-3-4.

On the thirtieth day the same diet schedule is continued, but the milk is reduced to glass one at 10-2-4 and before bed. Alkalies are given at 8-10-12-3-6. This schedule is followed for one month. During the first month of the treatment if any increase in food is not well tolerated immediately the preceeding diet is called into use. At the end of the second month a full diet, omitting all acid foods, hot breads, pork, canned foods and alcoholic drinks is given. Alkalies are given after each meal. This routine is followed for three months. At the end of this period the same diet is continued, but the alkalies are discontinued.

Medicinal: The one most commonly used drug in the treatment of ulcer is the Bismuth salts. Its action is such that it binds the acid, inhibits acid production, coats over mucous membrane and ulcer area, and lessens motility. Theseus believes that its usefulness is due to a disinfecting action on the ulcer surface and an absorption into lymph channels, thereby clearing up the lymphadenitis. In hemorrhages the Bismuth Subgallate is preferable, while in the absence of such the Subcarbonate or Subnitrate is best tolerated. The dosage may be large and at long intervals or small and frequent. The one big objection to the Bismuth preparation is the constipating effect. This, however, may be corrected by combining heavy calcined

magnesia. This magnesia preparation binds the acids more satisfactorily than any of the alkilies. Its use must be watched, however, for a marked diarrhea will be produced by an overdose.

Soda Bicarbonate is the most rapid neutralizing agent we have, but its effect is not as lasting as the above mentioned preparations.

Another drug of great value in the treatment of ulcer is Belladonna. This drug is of value because its action is directed to the control of the secretory activity of the glands and inhibits motility. It relieves the pain of ulcer by reducing peristalsis and relaxing spasm. It is of distinct benefit in hemorrhage. It does not in any way interfere with the digestive function. The dosage is small, well tolerated by all and can be used throughout the whole routine. In hemorrhage Morphia is always indicated and its use encouraged. Adrenalin Chloride 1-1000 solution, given in 1-20 drop doses, three to four times a day may be useful in hemorrhage.

PYELITIS*

ELIJAH S. SULLIVAN, M.D.
OKLAHOMA CITY

Pyelitis is an inflammation of the mucous membrane of the pelvis and calices of the kidney, usually complicated by renal tubule involvement, or by a ureteritis. It is always infections, but must have cause locally.

Many times both patient and physician minimize the importance and the gravity of this disease, and when the symptoms subside, as they so frequently do, the patient is lured into a sense of false security; and the opportunity to recognize and treat severe lesions in their incipency are often passed by; with the result irreparable damage has been done and in some instances the condition is beyond relief.

ETIOLOGY

According to Bumpus and Meisser, the streptococcus and staphylococcus are the infecting organisms, and that the colon bacillus is the secondary invader, which outgrows and usurps the entire field. Hæmholz showed experimentally in rabbits that pyelitis could be produced by merely

*Read before the Section on Genito-Urinary, Dermatology and Radiology, Annual Meeting, Oklahoma State Medical Association, Oklahoma City, June 22, 23, 24, 1926.

introducing bacteria into the bladder, without irritation of the bladder or obstruction to the urinary flow, and also lesions of the kidney produced by the intravenous injection of the colon bacillus. The predisposing factors are: 1. Focal infections such as: Gastro-intestinal conditions, diarrhea, constipation, fistula in ano, appendicitis, infected tonsils, chronic ear diseases, abscessed and pulpless teeth. 2. Obstruction to the urinary passage, such as stone in the ureter, stricture of the ureter, prostatic obstruction, urethral stricture and pregnancy. Other causes such as a stone in the kidney, nephritis and exposures to wet and cold.

SYMPTOMS

The acute type which is usually unilateral, begin with a sudden pain in the kidney, which radiates down the thigh. There is an elevation of temperature ranging around 103, and associated with chills and sweats, with frequent urination and dysuria. The kidney affected is moderately enlarged and tender. The chronic type of pyelitis, the patient does not appear to be very sick, and the symptoms are variable. There is a dull pain in the kidney region, which courses down the ureter region and down the thigh. The temperature is moderately elevated. In most cases of chronic pyelitis there is a history of frequency and dysuria, with chills and sweats, sometimes nausea and vomiting. On cystoscopic examination there is a swelling of the trigone, the mucous membrane of the bladder may vary from a very mild degree of cystitis to an intense wide spread involvement of the mucosa. There is a redness around the affected ureteral orifice. Examination of the urine is of the greatest importance. A pyelitis may exist, causing extreme symptoms, when the urine casually examined shows nothing. Every case in which there is a possibility of urinary infection should have a large quantity of freshly obtained urine, centrifuged, carefully strained and examined. If such an examination does not demonstrate pus and infection, cultures should be resorted to, though this may be misleading due to the chances of contamination. The amount of pus cells found in these specimens will vary from a few to many. Small numbers of red blood cells are sometimes found. Large quantities of albumin are not found, except in extreme cases; and it may be entirely absent.

TREATMENT

In the treatment of pyelitis, there have been unnecessary operative procedures, for the removal of the foci of infection, where the offending parts are in no way responsible for the condition of the patient, at the same time overlooking the true underlying cause. The removal of the original focus of infection does not cure the condition in all cases, but it will remove the source of the trouble, and prevent the condition from actively progressing further. Medicinal treatment is usually used in the early and acute types of the infection with success, especially in young children and pregnant women. Where the infection is due to the colon bacillus, large quantities of water with 15 to 30 grains of sodium bicarbonate four times a day, occasionally a patient, after about three days on this, does not improve, a sudden change to a hyperacid treatment, consisting of acid sodium phosphate 15 grains with urotropin 60 grains, a day will affect a cure. Then a few cases of this same type, in which the treatment does not succeed, hexylresorcinol from one to four capsules four times a day, the amount of water being decreased in order that the concentration of the drug in the urine will be increased, will affect a sterilization of the urine. In adults the intravenous dose of 7 c.c. of 1 per cent mercurochrome-220 soluble, every second day will affect a cure in many instances, and in others change from a very sick patient to an ambulatory type, within twenty-four to forty-eight hours, which will permit of a cystoscopic examination and renal lavage.

In patients with chronic symptoms, with severe acute exacerbations, I make a cystoscopic examination and dilate the ureter as much as possible, without causing too much traumatism. Following this with a pelvic lavage, using from two to 8 c.c. of 1 per cent silver nitrate solution, first being sure that the kidney could empty itself, sometimes a severe reaction will follow, if the fluid becomes trapped in the pelvis. I repeat this treatment in two or three days using 1 per cent mercurochrome.

O'Conner, in his experimental work on dogs, has shown that by injecting silver nitrate solution 0.5 to 1 per cent the mucosa of the ureter and pelvis undergoes corrosion with some destruction, and associated with this, there is a round cell infiltration in the submucosa. He also found that by using a 1 per cent solution of mer-

curochrome-220 soluble, that the dye penetrated the tissues deeply, but causes no round cell reaction in either the submucosa or mucosa. Therefore he recommends the use of a drug that causes a marked reaction, with an outpouring of of cells to combat the invading organism, and that is silver nitrate.

In a group of fifteen patients with a chronic infection, eight of them were cured. Their urine was sterile and free from pus. One patient with a ureteral stricture returns about every three months for a ureteral dilatation. The other six improved to the extent that they did not return for further treatment. The number of pelvic lavages given in these cases varied from two to twelve, and each patient had from two to five doses of mercurochrome, intravenously.

CONCLUSION

In conclusion the treatment of pelvic infection of the kidney requires a most thorough study of the case, and a persistent and varied treatment. But the underlying principal of drainage through the urinary tract and the removal of focal infection elsewhere in the body is probably the most important factor in the successful treatment of pyelitis.

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UROLOGICAL CONDITIONS IN CHILDREN*

HENRY S. BROWNE, A.B., M.D.
TULSA

Through the courtesy of Dr. John W. Howland, in 1925, I collected for Dr. Hugh Young, statistics on the cases in the Harriet Lane Home of John Hopkins Hospital, that were diagnosed as diseases of the genito-urinary tract, and it is through the kindness of Dr. Young that I am using these statistics in this paper. On examining the literature, I was surprised at how little had been written on this subject. All who have expressed themselves in papers

on this question, emphasize the fact that infants and children suffer from urinary diseases almost as frequently as adults and that the same measures used to arrive at a correct diagnosis in adults, also are applicable in these young patients. Bugbee and Wollstein¹ in 4903 necropsies in children found 117 cases presenting kidney urological conditions. These included 1 single kidney, 3 double kidneys, 1 double ureter, 6 renal displacements, 5 rudimentary kidneys, 15 polycystic kidneys, 2 monocystic kidneys, 3 cystic kidneys, 6 of hydronephrosis, 10 horseshoe kidneys, 13 cases of nephrolithiasis, 9 of pyonephrosis and 44 of hydronephrosis. There were 82 boys and 35 girls in this series. Among them there were 24 cases of malformation of other parts of the body including 2 spina bifida, 1 double club-foot, 1 exstrophy of the bladder, 6 epispadias and 1 hypospadias. To August, 1925, the following genito-urinary cases had been admitted to the Harriet Lane Home of Johns Hopkins Hospital:

Number Cases	Deaths
18—Non-specific urethritis	
41—Hypospadias	
Undescended Testicle	
53—(unilateral)	
14—(bilateral)	
2—Movable kidney	
4—Polycystic kidney	2
2—Horseshoe kidney	2
2—Hypoplasia of kidney, congenital	2
1—Congenital absence of kidney	1
3—Infarct of kidney	2
5—Perinephritic abscess	1
5—Tuberculosis of kidney	1
1—Sarcoma of testicle	1
(Boy, age 4 months)	
1—Teratoma of testicle	1
(Boy, age 30 months)	
1—Cyst of urachus	1
789—Eneuresis	
Boys, 454; Girls, 335.	
White, 668; Black 121.	

Number Cases	Deaths			
	Boys	Girls	Boys	Girls
58—Pyelonephritis	18	40	11	15
2—Pyonephrosis	2		1	
13—Hydronephrosis	12	1	7	
318—Pyelitis	37	281	6	19
151—Pyelocystitis	24	127	7	8
2—Renal calculus				
4—Renal tuberculosis	3	1	1	
3—Gonorrheal urethritis (Age 4, 5, 7)				
1—Vesical calculus (Age 6)				
1—Ureteral calculus (Age 4)				
4—Stricture of ureter (Age 5 mos., 1 year 8 mos, 1 day, 8 mos)				
2—Exstrophy of bladder				
1—Diverticulum of bladder (Age 12)			1	
5—Hypertrophy of bladder				
11—Congenital stricture of urethra	10	1		

*Read before the Section on Genito-Urinary, Dermatology and Radiology, Annual Meeting, Oklahoma State Medical Association, Oklahoma City, June 22, 23, 24, 1926.

This makes a total of 1525 cases. These statistics prove beyond a doubt that affections of the genito-urinary tract in children are very much more common than is generally believed. Gonorrheal vaginitis is very common, very persistent and very difficult to cure. Frazier² has brought the literature on this subject up to date. As regards the treatment, hundreds of preparations have been used and reported on favorably, which proves that there is no specific on this condition. I personally have obtained best results by hygienic measures plus Gellhorn's silver nitrate ointment or by substituting mercuriochrome for the silver nitrate using the same base. Specific urethritis in young boys is quite common as all who have worked in free dispensaries can testify. Most of the cases I have seen were contracted by direct contact. The treatment consists in general care with a mild silver salt as an injection. Complications are rare, due to the underdevelopment of the genitalia, though I have in mind a case of dense stricture in a boy of 20 requiring operation and excision of the scar tissue for cure. This was a result of gonorrhea contracted at the age of 8. Undescended testicle is quite a common condition, 67 cases in this series. The treatment is, of course, operative with replacement of the testicle in the scrotum and repair of the accompanying hernia before the age of puberty. Two cases of malignancy of the testicle were seen, both of which died. Eneuresis formed over one-half of all cases admitted. I will not attempt to discuss this difficult question except to state that I believe that all boys who need it should be circumcised before any other treatment is begun. We are thankful that the pediatrician has to take care of nearly all of these cases.

Congenital valve of the posterior urethra is a condition in which, due to developmental anomalies there is a thin band of tissue extending fan-like from the verumontanum to either side of the internal orifice, effectively acting as a valve and seriously interfering with urination. This condition was first thoroughly described and classified by Young, Frontz and Baldwin³ and the literature has recently been brought up to date by Hinman and Kutzmann⁴, who have added 6 cases of their own. It is practically always found in young boys because these patients do not live long unless it is recognized early. Due to the obstruction in the posterior urethra,

symptoms of urinary back-pressure and infection and later renal insufficiency intervene early so that unless it is recognized and the obstruction relieved these boys do not live long. Under the diagnosis of pyelonephritis, pyelitis and pyelocystitis there were 517 cases, 79 male and 438 female, with 64 deaths, 22 in boys, or 27.8 per cent, and 42 girls, or 9.5 per cent. From this it appears that pyelitis and its variations have a much more serious prognosis in boys than in girls and we should bear this in mind when treating such cases. The histories of 40 of these cases that died, including 19 autopsies, were studied. Necropsy diagnosis: 1 case was multiple abscesses in both kidneys, in another polycystic kidneys, and in a third case, congenital valve of the posterior urethra with hypertrophy of the bladder, bilateral hydronephroses and hydronephrosis (infected), all resulting from the obstruction in the posterior urethra. Careful study of the histories and autopsy records of the cases that died in which the clinical diagnosis of pyelonephritis, pyelitis, or pyelocystitis was made, showed that in the majority this was only a part of the general picture which included gastro-intestinal indigestion, diarrhea, vomiting, malnutrition and improper feeding. In some cases it appears evident from the histories that the infection in the genito-urinary tract was sufficient to upset the delicate gastro-intestinal balance of the baby and set it off on the train of gastro-intestinal disorders leading eventually to death. The treatment consisted in regulating the feeding, sodium bicarbonate and potassium citrate in large doses, intra-peritoneal, sub-cutaneous, intravenous and rectal administration of normal saline solution. Autogenous vaccines were used in some cases without result. Cultures were taken in 15 cases, 1 was sterile, 1 not stated and 13 showed *b. coli*. The chief reason for presenting this paper is to emphasize the necessity of closer cooperation between the pediatrician and the urologist in the cases of persistent pyelitis, or rather pus in the urine, which do not respond to the usual treatment. After the above statistics it is useless to repeat that urological conditions are very common in children, but I do wish to emphasize the fact that the same accurate means of diagnosis are available as in adults. Those patients presenting a tumor or mass or pain anywhere along the genito-urinary tract, frequency of urination or blood in the urine, who

cannot be diagnosed by the ordinary means at our disposal, must also be included. More frequent radiographs should be taken when in doubt. A plain plate is much clearer and more distinct than in adults, and very often the cause of persistent pus in the urine will be found to be a urinary calculus on X-ray examination. The urine should always be examined as the first step and should be obtained under aseptic precautions, examined fresh and after staining, then cultured and the offending organism ascertained. If the culture is sterile in the presence of pus, the tubercle bacillus should be suspected and looked for. Tuberculosis of the kidney is not infrequent in children. Having exhausted the simple means at our command, these children should then be given the benefit of cystoscopy and a complete urological examination just as we would in adults. Kretschmer and Hemholz⁵, Hyman⁶, Stevens⁷, Folsom⁸, Hinman⁹, Kretschmer¹⁰, and recently McKay¹¹, report altogether nearly 200 cases in which cystoscopy was carried out in children and they all are as one in stating that the examination has no practical difficulty, causes no shock or bad after effects and that the benefits obtained, far outweigh the possible drawbacks, which are practically nil. Small cystoscopes are now made expressly for this purpose and they may be used with a little gas anaesthesia and often in girls with no anaesthesia at all. For anatomical reasons girls can be cystoscoped at a much earlier age than boys, the latter often requiring a meatotomy. Persistent pyelitis responds much better to pelvic lavages in children than in adults, probably because it is more acute and of shorter duration and because the passage of ureteral catheters dilates the ureters and reestablishes free drainage from the kidneys. Kretschmer¹⁰ reports the largest series of cases cystoscoped, divided as follows: boys, 20; girls, 40; the youngest was 7 months and the oldest 10 1-2 years. The following diagnoses were made: pyelitis, 28; pyelonephritis, 4; hydronephrosis, 4; renal tuberculosis, 4; sarcoma of the kidney, 2; nephrolithiasis, 1; acute hemorrhagic nephritis, 1; hydroureter, 1; ureteral stricture, 1; bladder calculus, 4; cystitis, 5; eneuresis, 2; angioma, 1; gonorrheal cystitis, 1; trigonitis, 1; diverticulum, 1; polyuria, 1; spina bifida, 1; congenital valve of the posterior urethra, 1; no diagnosis, 1, a total of 60 cases. Organisms found were *b. coli*, 25 cases; *staphylococcus*, 5 cases; tuber-

cle bacillus, 4 cases; paratyphoid, 1 case, and gonococcus, 1 case. With pus in the urine, *b. coli* is the offending organism in the great majority of cases. From these statistics of Kretschmer which correspond closely with those of the other authors mentioned above, it is evident that there is a close parallel between urological conditions in infants and children and adults. The means necessary for positive and accurate diagnosis are the same. Malignant tumors of the kidney are quite as common in children as in adults. They grow to a huge size in a short space of time and the only hope of cure in these very unfavorable cases, is early diagnosis and removal.

CONCLUSIONS

1. Urological conditions in infancy and childhood are just as frequent as in adults excepting those incident to age, as hypertrophy of the prostate and bladder tumors.
2. Cystoscopy and a complete urological examination are minor procedures without ill effects afterward and should be employed in all cases where the diagnosis is in doubt.
3. There should be greater cooperation between pediatricians and urologists to the ultimate benefit of the patients.

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STREET RISK OF CARBON MONOXIDE POISONING

The existence of a definite street risk of repeated or chronic slight carbon monoxide anoxemia is confirmed by the observations reported by ELIZABETH D. WILSON, IRENE GATES, HUBLEY R. OWEN, Philadelphia, and WILFRED T. DAWSON, Galveston, Texas (*Journal A. M. A.*, July 31, 1926). Confirmation of such a diagnosis should be sought for by testing the blood for carbon monoxide. A quantitative method should be used.

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Failure to receive The Journal should call for immediate notification of the editor, Barnes Building, Muskogee, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes in address, birth, deaths and weddings will be gratefully received.

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EDITORIAL

COUNTY SOCIETY MEETINGS

Oklahoma has long had too many county societies which meet annually, if that often. The usual excuse in extenuation of this state of affairs is that there are not enough members, after that one they shade off into many others, equally insufficient. Wherever any number, even two or three physicians get together, discuss their cases and problems in good faith, some one of them, if not all, is sure to go away benefitted. These meetings broaden the field of thought; things before that seemingly difficult, often become simpler. New lines

of thought are opened, resulting in benefit to the doctor and his patient. Such meetings are followed by a feeling of personal buoyancy, by increased will and resolution to better ones work. It is not necessary that an elaborate program be arranged. Reporting and discussion of the things one meets in his daily work often bring out surprising information and results.

One other excuse not mentioned above, but which too often is heard, is that non-attendance is the result of personal feeling on the part of the physician against some other. This is as potent, no more so, that the excuse offered for not attending ones church. "So and so is not a fit member." Until such remedy is tried those who advance these excuses will remain in darkness as to the real good benefits to be derived from meeting and getting the other fellows viewpoint. As a rule, it may be accepted as the law, that the person complained of is not nearly as bad as he has been believed to be.

September is the month when we should all begin society attendance. Hot weather can no longer be brought into question, all the evenings are pleasant, and there is usually time for attendance. THE JOURNAL urges every collection of members, regardless of the small number, to take this matter into consideration, and act upon it. The first meeting may well be devoted to laying such plans as seem best to fit the local conditions, such as roads, convenience, geographical obstacles, etc. This is merely reiteration of similar views expressed in these columns before this. We believe if they are followed they will be of great benefit to our members.

—o—

GETTING THE NEWS FROM THE DOCTOR

One of the difficult things of accomplishment always confronting THE JOURNAL is that incident to securing notice of the activities of our many members. Natural modesty restrains some from telling us what they are doing, what they think; others are just as careless and do not think it worth while. Your JOURNAL should have some notice of every event materially affecting the doctor or his interests. Not all such material, of course, is available for use in these columns, but much is never known, which should enter them, so, unless we have it first hand, it is either never known or often garbled by local news gathers. Those societies with

large memberships might do well to designate some live, energetic member as a reporter, and whose letters would bear the stamp of authority. Communications from such sources are usually of much interest to members in other localities. It keeps them in touch with the friends they are separated from as no other medium will.

THE SOCIETY BUSINESS MEETING

Many county societies have in their by-laws provision for at least one meeting annually to be devoted to study and consideration of the material or financial betterment of the profession. This wise provision was written into the first model constitution and by-laws issued by the American Medical Association on the theory that physicians were rather neglectful, as a rule, as to their best business interests. It was written on the belief that team work would tend to stabilize and equalize the work and rewards of the physician in each given county undertaking the plan. This too, has been too much neglected, and should no longer be honored by the breach of non-observance. If "man should not live alone," certainly the physician should be included in the command. County societies might try this meeting as suggested and receive a practical demonstration of its benefits.

Editorial Notes—Personal and General

DR. EMMETT JOHNSON, Kinta, recently made an extended trip through the Yellowstone Park.

DR. J. P. TORREY, Bartlesville, who has spent the summer with his family in Michigan, has returned home.

DR. and MRS. R. M. ANDERSON, and daughter, have returned home after visiting relatives in Tennessee.

DR. and MRS. E. E. WAGGONER, and family, Tonkawa, spent a vacation in the Ozarks, near Hollister, Mo.

DR. and MRS. FRANK BATES, and friends, Coalgate, recently spent a vacation in the Ozarks, followed by some postgraduate work by Dr. Bates at St. Louis.

DR. FRED S. CLINTON, Tulsa, recently attended the convention of the Santa Fe Railway Medical and Surgical Societies at Albuquerque, New Mexico, where he delivered the president's address.

DR. JOHN R. REED, Hobart, is taking some post-graduate work in surgery in New York.

DR. A. B. RIVERS, Okmulgee, has been elected commander of the local American Legion post.

DR. and MRS. R. E. DICKSON, and family, Chandler, spent a short vacation in Texas during July.

DR. and MRS. J. M. Wells, and family, Bristow, recently spent a short vacation at Bella Vista, Arkansas.

DR. and MRS. A. M. MARSHALL, and family, Chandler, recently spent a month's vacation in Colorado.

DR. and MRS. O. G. BACON, Frederick, recently visited Mrs. Bacon's mother at Johnson City, Tenn.

DRS. I. V. HARDY, Medford, and J. R. SWANK, Enid, are taking post-graduate work at the Mayo Clinic.

DR. and MRS. H. B. McFARLAND, Cleveland, recently enjoyed a vacation trip through Arkansas, Missouri and Illinois.

DR. and MRS. J. B. LEISURE, and daughter, Watonga, returned home from an auto trip through Wyoming and Colorado.

DR. and MRS. J. C. REYNOLDS, and family, Frederick, have returned from a vacation trip through Arkansas, Missouri, Alabama and Tennessee.

DR. D. B. ENSOR, Hopeton, is home from an extended trip to Tennessee, experiencing a train wreck on the way home, but escaping without a scratch.

DR. and MRS. J. T. MARTIN, and sons, Oklahoma City, recently returned from a trip to the exposition at Philadelphia and other points in the East.

DR. L. A. MITCHELL, Stillwater, recently attended the reserve officers' camp at Fort Sam Houston, followed by a trip through Texas and New Mexico with Mrs. Mitchell and family.

DR. and Mrs. HARRY HAAS, Sapulpa, returned recently from a trip to the east, where Dr. Haas took three week's post-graduate work in the eye and ear hospitals in New York City.

COL. HUGH SCOTT, U. S. Veteran's Hospital, and DR. ARTHUR L. MOBLEY, U. S. Veteran's Hospital, Muskogee, are attending the medical reserve officers' training camp at Fort Sam Houston, Texas.

DR. HENRY C. RICKS, State Bacteriologist, Oklahoma City, was honored with a farewell dinner by the officers of the 120th Medical Regt., at the Oklahoma Club recently, preparatory to his leaving for a nine months' course at John Hopkins.

DR. J. A. BENTLEY, formerly of Dustin, has moved to Allen.

DR. J. HUTCHINGS WHITE, Muskogee, is spending a vacation in the East.

DR. W. J. WHITAKER, formerly of Pryor, is now located at El Paso, Texas.

DR. J. M. HANCOCK, Chandler, recently spent a short vacation in New Mexico.

DR. and MRS. A. T. HILL, Stigler, with some friends, recently spent a short vacation in Arkansas.

DR. and MRS. ARTHUR WHITE, and son, Oklahoma City, have returned from a trip through Minnesota and Illinois.

DR. AARON S. PRICE, formerly of Osage, has moved to New York, where he will be engaged as assistant professor of pathology in the New York University for the coming year.

DR. R. D. WILLIAMS, Idabel, retired from active practice last year to devote his entire time to Public Health work, is County Superintendent of Public Health of McCurtain County.

DR. R. Q. ATCHLEY, Tulsa, has returned from an extended European trip, studying in Vienna, and attending clinics at Rome, Paris and Switzerland and also in New York and Cleveland.

DOCTOR ARTHUR A. WILL

Dr. Arthur A. Will, Oklahoma City, died August 10, 1926, after a brief illness of less than 48 hours. Autopsy reports gave the cause of death as acute pancreatitis.

Dr. Will was born in Franklin, Quebec, March 24, 1875. Obtaining his preliminary education at Sherman College Institute, he later graduated from the Albany, New York, Medical College, May 30, 1900. Practicing in Albany and North Creek until 1905, he moved to Oklahoma, locating in Oklahoma City, where he followed his profession until his untimely death. He is survived by his widow and one son, seven years of age.

Perhaps no man was more popular both socially and professionally in Oklahoma City than Dr. Will. His nature was that which acquires and holds friends through years of contact and endeavor. His attitude could always be determined in advance on questions of ethics and propriety. His counsel was much sought and his work was followed by unusually creditable success. He was a member of the staffs of St. Anthony's and University Hospitals and was a member of the University Faculty.

Funeral services were held at St. Pauls Cathedral Wednesday, August 11th, and interment was had at Fairlawn Cemetery.

The Journal joins those who mourn the passing of Dr. Will. The profession and people of Oklahoma have lost an able, efficient, true man.

DR. W. P. FITE, Muskogee, has returned from an extended visit in Minnesota.

DR. and MRS. F. B. ERWIN, and daughters, Oklahoma City, have returned home from a two months' stay in New York.

DR. J. A. LAND, has become interested in the Hobart Hospital, Hobart, where he is now located, having moved from Lone Wolf.

DR. F. L. CARSON, Shawnee, recently suffered the loss through death of his father, John Carson, who was 94 years of age.

DR. S. B. JONES, Sallisaw, recently suffered the loss of his wife, Mrs. Chloe Millwee Jones, who died after a brief illness.

DR. and MRS. D. W. BENNETT, Sentinel, are spending a vacation in Colorado Springs and Denver, where the doctor is taking post-graduate work.

DR. and MRS. HORACE REED, Oklahoma City, left recently for San Antonio, Texas, where Dr. Reed will attend the training camp at Fort Sam Houston.

DR. and MRS. CARROLL M. POUNDERS, Oklahoma City, returned recently from a three weeks' trip to Detroit and Flint, Michigan, and points in Canada.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M. D.
717 North Robinson St., Oklahoma City

Manipulative (Chiropractic) Dislocations of the Atlas.—Edward S. Blaine, M.D., *Journal American Medical Association*, October 31, p. 1356.

A detailed description of the bony and ligamentous anatomy of the atlas and axis is given, as well as particular directions for the technique of taking skiagrams of this region.

Three cases are reported in detail, in all of which skiagrams revealed a dislocation forward of the atlas upon the axis following manipulations by a chiropractor, and having symptoms relative to resultant compression of the spinal cord. One patient died, one was lost sight of, and in the third the symptoms decreased in severity.

The author concludes the paper with a just and scathing indicative of laws that will allow such practices as chiropractic "adjustments."

Developmental Anomaly of Patella Frequently Diagnosed as Fracture.—J. D. Adams and R. D. Leonard, *Surg., Gyn., and Obstet.*, November, 1925, p. 601.

This condition was first described by Joachimstal in 1902. Six cases are reported by the author, three of which had been erroneously diagnosed as fractures. The general contour of the patella is not distorted. One or two separate fragments of bone of the same structure as the patella are found in the outer and upper quadrant. The recognition of this condition is of ex-

treme importance in compensation cases. The differentiation can easily be made by skiagraph. The deformities are usually bilateral.

Metatarsalgia (Morton's Toe).—Earl D. McBride, M.D., F.A.C.S., Oklahoma City.

This condition is more common in women past 35. The characteristic symptom is a burning, neuralgic pain in the fourth toe. It may include several toes. Sometimes the pain is a sharp severe cramp and the sufferer learns to remove the shoe, regardless of where she is, and squeeze and manipulate the toes for relief. The pathology is thought by some to be a bursitis. Others state that it is due to pinching the nerve branches by the metatarsal heads.

Etiology. The contributory cause is a flattening and displacement of the metatarsal heads. It generally occurs in one foot only. In women, the origin can often be traced to an instance when an unaccustomed flat heel shoe is worn and especially one which allowed the foot to spread out suddenly. High heels force the weight forward

on the metatarsal heads and allow the heel cord and plantar tendons to contract. Sudden lowering of the heel therefore pulls on the metatarsal heads. Unaccustomed activity soon produces friction between unprotected prominences of the metatarsal heads. As bursitis is often to blame, focal infections should be investigated.

Treatment. Correct shoes is the first essential. However a change to low heels and broad toes cannot be made suddenly without protection to the arch and exercises which will stretch the heel cords and plantar muscles.

Temporary relief is begun by lifting the anterior arch with a felt pad and adhesive plaster strapping. A pad of harness maker's felt about 1-2 inch thick, 2 inches wide and 3 inches long is placed under the middle of the forefoot so that the anterior border lies immediately back of the metatarsal heads. It is held in position by a strip of adhesive two inches wide placed firmly around the forefoot immediately back of the metatarsal heads.

Care should be used not to shut off the venous circulation in the toes.

If this procedure does not obtain relief, more permanent measures may be undertaken. A brace should be constructed to hold up the anterior arch. Exercises must be taken which will stretch the contracted tissues and strengthen ligaments and muscles. Shoes must be prescribed which will permit correction to take place. A mould of the foot is made by placing it flat down in the plaster paris cream. A correction is made in the model by gouging out a hollow place back of the metatarsal heads and a simple sole plate is then constructed by the brace maker.

The following exercises should be done daily:

1. Forcefully stretch toes downward 10 to 15 times.
2. Pick up a marble with the toes 25 to 30 times.
3. Sit down on heels 10 to 15 times. For this, the feet should be bare, the toes are held slightly turned in and the palms of hands are placed on the floor and heels kept flat down.

The length of the shoes should be increased. They should be a welt and not a turn sole. In women the heels should not be greatly lowered at first. A strictly anatomical shoe should be applied later on.

In the army, the metatarsal bar was very effective. This is not very practical in civil life.

When conservative methods fail, removal of the metatarsal head usually effects a permanent cure.

UNIVERSITY EXTENSION DIVISION POST GRADUATE COURSES IN MEDICINE A SUCCESS

Four hundred physicians taking Post Graduate Courses in Pediatrics and Internal Medicine under the auspices of the University Extension Division and the School of Medicine of the University of Oklahoma indicates the demand for up-to-date Post Graduate Instruction in Medicine on the part of the physicians of the State.

Since March the University has put on three circuits of Post Graduate Instruction in the central and southern part of the State. Some of the doctors have gone regularly each week from forty to seventy-five miles to attend the lectures. The resolution of doctors of McCurtain County: "That the Post Graduate Lecture Course conducted by the Extension Department has been a profitable one and well worth while and we wish to especially recommend Dr. Rupe's work and felt we were indeed fortunate in getting to attend the course," is typical of the appreciation on the part of the doctors of this service.

Circuits in Pediatrics are now being organized in other sections of the State and courses in other subjects will be organized as the demand for it becomes apparent.

TUBERCULOSIS

Edited by L. J. Moorman, M.D.
912 Medical Arts Bldg., Oklahoma City

The development of the Sanatorium in the treatment of tuberculosis has proven to be one of the most significant and most interesting movements in the history of medicine. In spite of this fact, its true significance is not generally understood, and consequently the merits of the Sanatorium plan are not fully appreciated. The June number of the "Journal of the Outdoor Life" is devoted entirely to the thirtieth anniversary of Loomis Sanatorium.

While it is impossible to give a comprehensive report of its contents in this column, I am quoting freely from some of the contributions in order that the readers of the Journal may gain some

idea of what has been accomplished, and with the hope that some may be induced to obtain this number of *Outdoor Life* and read in full this record of the remarkable achievements of this great institution.

(Editorially)

"LOOMIS AT THIRTY"

By P.P.J.

Journal of the *Outdoor Life*

"To build a tuberculosis sanatorium today is a matter of relative simplicity. Provided the money is available, the rest of the task is comparatively easy.

"But to build a tuberculosis sanatorium thirty years ago required more than ordinary pioneering courage. There were many obstacles to overcome, besides that of financing. For example, the obstacle that Dr. Lee Loomis had to overcome in the establishment of Loomis Sanatorium was the bugaboo of climate. For years people had apparently been convinced that only in the warm, dry atmosphere of the southwestern states could tuberculosis be cured. To such, the establishment of a sanatorium within three hours' ride of New York City was flying in the face of established medical tradition, a task that required the courage of a pioneer.

"Loomis Sanatorium, like Trudeau and Sharon, blazed a trail or, to put it perhaps more accurately, Loomis Sanatorium followed the trail of Trudeau and Sharon and off in other directions. Following Loomis came still others of great pioneering significance, Gaylors Farm Sanatorium, White Haven Sanatorium, Edward Sanatorium, Pittsburgh Tuberculosis League Sanatorium, and many others.

"It would be difficult and well nigh impossible to summarize in a few words the significant contributions of Loomis to tuberculosis work, but even to the casual observer of the history of this great institution, a few outstanding achievements are clear. For example, Loomis made significant contributions to the treatment of tuberculosis following Trudeau's example in the somewhat milder though still rigorous, climate of the Catskills. The fresh air, rest and good regimen of Trudeau was modified to suit the individual needs of the patient. Loomis was also a pioneer in the adaptation of exercise and work therapy to the treatment of tuberculosis, following the work of Paterson in England.

"In the contribution of personnel to the tuberculosis field throughout the United States and the country have received training at Loomis Sanatorium in the Adirondacks, has been an outstanding example. Physicians in every part of the country has received training at Loomis Sanatorium, many of them under the late Dr. Herbert Maxon King, whose genius made Loomis much that it is today.

Loomis today stands upon her hills in Sullivan County, New York, a beacon of inspiration not only to those who are taking the cure within her walls, but to thousands of others who have graduated and passed on from this institution, and to those who have never visited there but who have received from her the inspiration of the Loomis atmosphere through those who have been there. May Loomis live long and pass not only another thirty years of usefulness, but many more."

"IN MEMORY OF HERBERT MAXON KING"

By Vincent Y. Bowditch, M.D.

Boston, Mass.

"In attempting to write any memoir of Herbert Maxon King, I find it difficult to offer adequate words to express my own personal feeling of deep respect and keen affection for one who, from the earliest days of my acquaintance with him, gave evidence of splendid devotion to the work entrusted to him at the Loomis Sanatorium. The fact that this institution opened its doors not many years after the Sharon Sanatorium had been established at Sharon, Mass., in 1891, as an experiment to prove that pulmonary tuberculosis could be successfully treated at a low altitude in our harsh inclement, northern climate, naturally brought King and myself, when he took charge of Loomis in 1902, into close contact because of similar doubts and perplexities which we both had to meet. Although the two institutions differed in certain characteristics, the chief problems of administration and treatment were practically the same, and we often turned to each other for sympathy and counsel, the result being the formation of a friendship deep and true, the memory of which is a constant inspiration.

"Dr. King came to the Loomis Sanatorium under circumstances which made the task peculiarly difficult. Although in delicate health himself, his splendid spirit, pluck and determination enabled him to bring order out of chaos. In a few years, the result of his control was the growth of the Loomis Sanatorium into one of the finest institutions in any country; a splendid monument to him and to those who aided and supported him through years of patient, often anxious endeavor."

"The Standard Oil Company (N. J.) Cottage formally presented by Mr. Seth B. Hunt, was built to take care of their tuberculous employees. It was similar to Griswold Cottage and would accommodate about 25 patients. The realization of this Company that tuberculosis as an industrial problem can be partly solved through furnishing treatment and assistance to workers marked a big step towards combating tuberculosis in industry."

"OBLIGATION OF LOOMIS TO MEDICAL SCIENCE"

By J. Burns Amberson, Jr., M.D.

Associate Physician, Loomis Sanatorium, 1918-26.

"Through uncounted ages the germ of tuberculosis, dating its ancestry from prehistoric times, has probably varied but slightly in its chief characteristics. It still produces much the same changes in human organs as it did in those of now extinct animals. No disease has preserved greater fixity in this respect. Yet it is only in the last quarter century that tuberculosis has begun to lose the proportions of a scourge.

"This recent and rapid change has been a topic of much thought and discourse. While none denies the part taken by indirectly related advancements in civilizations in lowering disease rates in general and tuberculosis morbidity in particular, it must be conceded that the major cause for this happy progress is the steady accumulation of scientific knowledge of the behavior of the bacillus and the reaction of living tissues to it, as well as the incorporation of this knowledge in the general health program and in the establishment and development of sanatorium treat-

ment. Though the benefits of sanatoria have already proved incalculably great and the principle of treatment has been shown to be permanently sound, it is becoming even more necessary because of the tenacity of the disease to extend and perfect the system so that it may accomplish its utmost good.

"Most sanatoria have on their medical staffs physicians who have tuberculosis and are obliged on this account to do only part-time work until the disease has become quiescent. I need not repeat the long list of names of these who, brought into contact with the problem because of personal affliction, have developed a sustained interest enabling them to make noteworthy contributions to this branch of medical science. The sanatorium staff will always be the haven of the tuberculous physician, and this is of mutual good in that the opportunities of regaining health while working compensate for the usual isolation.

At the same time, provided the spirit exemplified by such an institution as Loomis Sanatorium is fostered, many a new recruit will be turned into the field of tuberculous research, there to concentrate his talent and effort. In fact, with this provision, ill health will not always be the deciding factor."

EYE, EAR, NOSE and THROAT

Edited by Jas. C. Braswell, M. D.
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Ultraviolet Rays in Nasal and Oral Conditions.

Brooke, C. R.: *Med. J. & Rec.*, 1925. cxxii, 681.

Brooke is very enthusiastic regarding the use of ultraviolet rays in nose and throat conditions. He discusses their action and the technique of their application in infections and hay fever. He believes that air-cooled lamps have a "biological action" and water-cooled lamps a bactericidal action.

The rays are applied over the body to increase the general resistance and locally in the nose, postnasal space, or throat. Brooke has obtained excellent results from this treatment in acute nasal infections, sinusitis, hay fever, acute tonsillitis, incipient peritonsillar abscess, Vincent's angina, pyorrhoea, and tuberculous ulceration of the buccal cavity.

Studies on the Common Cold. I. Observations of the Normal Bacterial Flora of the Nose and Throat with Variations Occurring During Colds.

Shibley, G. S., Hanger, F. M., and Dochez, A. R. *J. Exper. Med.*, 1926, xliii, 415.

The studies reported in this article were undertaken to obtain an acceptable explanation of the causation of the common cold.

The methods employed in the investigation are described and the findings given in tabular form.

Cultures of the nose and throat of normal persons were compared with cultures made during colds, and the incidence of certain organisms was noted.

The normal basic nasal flora includes staphylococcus albus, diphtheroids, and, in certain per-

sons, staphylococcus aureus and citreus. Occasional transient bacteria are gram-negative cocci and non-haemolytic streptococci.

The normal basic throat flora includes gram-negative cocci, non-haemolytic streptococci and, in certain persons, "large gram-positive cocci," bacillus influenzae, bacillus "X", and diphtheroids. Transient organisms are staphylococcus albus, haemolytic streptococci, staphylococcus aureus and citreus, and pneumococci.

In the early stages of colds the cultures showed no bacteria to which a role in the causation of the cold could be assigned, but the basic flora of the nose was often scanty, and the throat showed a reduction of prominence or alterations in predominance of the basic flora.

Organisms which were prominent in colds, usually as late or secondary invaders, were staphylococcus aureus, haemolytic streptococci, and bacillus influenzae.

There was a striking incidence of haemolytic streptococci in throat infections.

The Relation of Tonsil Infection to Nephritis in Children., Thorburn. O. L.: *Ann. Otol., Rhinol. & Laryngol.*, 1925, xxxiv, 1096.

It is only in recent years that the tonsil acting as a focus of infection has been recognized as the causative factor in nephritis in children. The most widely accepted theory attributes the nephritis to the absorption of toxins rather than to the direct action of the bacteria.

In children the history and the condition of the circulatory system are unimportant and the acute type of nephritis is most common. In adults, the reverse is true.

Nephritis in the child is classified by Hill into the following types: (1) acute haemorrhagic, (2) acute exudative with oliguria, (3) subacute, (4) chronic, and (5) chronic with infantilism.

Tonsillectomy should be done early as it is doubtful whether it is of any benefit in the chronic stage. The tonsils should be kept in mind as a possible source of infection in every case of acute nephritis in a child. The taking of the history should include questioning with regard to attacks of sore throat and cervical adenitis. Examination of the tonsils for evidence of chronic infection should never be neglected. Medical treatment and regulation of the diet are not sufficient for the permanent cure of nephritis; the cause of the infection must be eliminated.

The Prevention of Chronic Middle Ear Suppuration., Mackenzie, G. W.: *Ann. Otol., Rhinol. & Laryngol.*, 1925, xxxiv, 1068.

The prevention of chronic middle ear suppuration depends upon the curing of the acute form. The predisposing cause of the acute form is nasal or nasopharyngeal obstruction caused by adenoids, a deflected septum, nasal polypi, hypertrophied turbinates, or adhesions. The activating cause is an acute infection affecting the upper respiratory tract, such as influenza, scarlet fever, and measles. Repeated acute infections and lessened resistance to a particular infecting organism increase the danger of chronicity.

The treatment should be directed toward the cause, whether this is faulty drainage or lessened

resistance or both. Syphilis and tuberculosis are less common factors, but are of importance and should be treated. The diet also must receive consideration.

The Prognosis of Middle-Ear Suppuration in Children., Guthrie, D.: Edinburgh M. J., 1926, xxxiii, Med.-Chir. Soc. Edinburgh, 49.

Middle-ear suppuration is often regarded as a trivial ailment but is a disease of considerable importance as it is a direct cause of ill health and deafness and may even prove fatal. At autopsy it has been found in as many as 80 per cent of infants under 1 year of age. In the vast majority of cases a common cold is the causative factor.

Of 129 patients with acute middle-ear suppuration which were traced by the author, 78 per cent were found free from drainage and deafness from two to five years after the original attack. Acute mastoiditis is a frequent complication after streptococcal infection but has a favorable prognosis if intracranial involvement does not occur. Of thirty-nine patients operated upon for this condition, 75 per cent were found to be quite well.

In chronic suppurative otitis media the outlook is distinctly less favorable. The chronicity is attributable to neglect of treatment, constant re-infection by repeated colds, and adenoids. Of 207 patients treated conservatively, only 57 per cent were cured and in 15 per cent both deafness and discharge were still present. Surgical treatment was given in fifty-seven cases, but the results were disappointing regardless of the type of operation.

Tuberculous otitis media was found in twenty-two cases. In this condition a radical operation is the only treatment to be considered.

From his observations the author concludes that the more recent the suppuration the more favorable the prognosis. The avoidance of colds in infancy is all important. Adenoids should be removed. Such attention will often prevent deafness in adult life.

UROLOGY and SYPHILOLOGY

Edited by Rex Bolend, B.S., M.D.
1010 Medical Arts Building, Oklahoma City.

TREATMENT OF NEUROSYPHILIS BY MALARIA

The Journal of A. M. A. quotes O'Leary on reports of preliminary observations after a ten months trial of a series of thirty-five patients with neurosyphilis who were inoculated with malaria plasmodia. Of twenty-four patients with frank paresis, 25 percent showed a complete remission that allowed them to return to their former occupations within two months after the malaria was stopped; 37 percent were definitely improved on one way or another, and two died, one as a result of malaria and the other six months later with convulsions. Thus far in the series, the "fever therapy" has had practically no effect on optic atrophy gastric crises, persistent lightning pains with negative serologic findings, asymptomatic neurosyphilis and paresis

The mental and physical symptoms were most favorably influenced by the treatment without charge being observed in the objective findings. There have been no serologic changes in the blood or spinal fluid as yet. The use of ar-sphenamine mercury or tryparsamide immediately after the malaria was attended with definite evidence of relapse from remission. The majority of the complications noted were transient and disappeared with the cure of the malaria, although complications attributable directly to the syphilis may cause some embarrassment. Myocarditis, nephritis, marked weakness or wild delirium may demand the cessation of treatment.

The writer has had very limited experience with the use of malaria inoculation but in the past year I have used tryparsamide along with bismuth and the results have been equally as good as when the patients were subjected to the pyrexia of malaria inoculation. My series is very small, but the clinical and serological results in 8 cases of frank parasis treated with tryparsamide is just as good as when inoculated. I feel that the long continued use of tryparsamide is the essential factor.

GENTLENESS IN UROLOGY

L. Bayard Clark, of New York, apparently with some misgivings makes some very pertinent remarks on gentleness in Urology.

Dr. Clark reviews the history of treatment in Urology starting back in the days before anti-sepsis, and as we learn the value of a germ-free field of operation, we seemed to take more for granted and traumatized the tissue with more or less impunity, by using large instruments, strong solutions and roughness in manipulations.

The writer thoroughly agrees with the Doctor, and not only should those of us doing Urology be gentle with the Urogenital tract, but it is time the other branches in the practice of medicine should know we are practicing gentleness and that now it is not an ordeal equal to childbirth to have a cystoscope passed and ureters catheterized.

ACUTE PYELITIS AND HEXYLRESORCINOL

Some confusion still seems to exist in the use of hexylresorcinol in acute pyelitis, approaching uremia, or other conditions known to need a large amount of water. Let us quote the originator "Hexylresorcinol is not intended to replace the standard and well tried treatment in conditions demanding alkalization and excess fluids."

This confusion seems to come about by the rather conflicting information that the drug is effective in either, alkaline or acid urine. But sodium bi-carbonate and excess fluids are contra-indicated. The reason for this is, soda and excess fluids raise the surface tension, and the efficiency of hexylresorcinol depends greatly on a low surface tension—therefore, anything that raises the surface tension of the urine will reduce the potency of the drug, and for that reason Veader Leonard does not recommend it to replace the usual treatment in acute cases. But after this stage has passed, it does exert marked germicidal effect, especially on organisms of the cocci group.

CLIPPINGS FROM UROLOGIC AND CURTANEUS REVIEW

The following are so very pertinent and so commonly violated, we feel justified in copying them in this column.

Some skin lesions of syphilis do itch, textbooks to the contrary notwithstanding.

A town will lock up a lone small pox patient and let a thousand syphilitics roam freely.

Twenty years hence the insane asylums will tell us how good our treatment of today is.

In acute syphilis, do not tap lightly. Hit with sledge-hammer blows. This is the time to cure the disease.

The recognition of a headache as being of syphilitic origin may be the factor that saves the patient from becoming a mental wreck.

The syphilitic who marries after a short and inadequate course of treatment is a criminal—and so is the doctor who lets him do it.

Do not forget that involvement of the cerebral blood vessels and meninges may be among the earliest manifestations of syphilis.

Intensive and continuous treatment during the earlier months of syphilis is the best insurance against manifestations during the later years of syphilis.

An infant, apparently healthy, born of syphilitic parentage, requires most careful watching, for manifestations may appear long after birth, even several years.

Great discrimination and caution are necessary in the treatment of syphilis during its latest stage. Heroic treatment may over-stimulate and eventually break down the natural defensive mechanism of the body with disastrous results to the patient.

BOOK REVIEWS

CLINICAL PEDIATRICS. By John Lovett Morse, M.D., Professor of Pediatrics, Emeritus, Harvard Medical School; Consulting Physician at the Children's, Infant's and Floating Hospitals, Boston. Philadelphia and London: W. B. Saunders Company, 1926. Cloth, \$9.00 net.

In the reading of any book, he who overlooks the preface will lose sight of the personality which that book should disclose. And especially is that true of the preface contained in Morse's *Clinical Pediatrics*. This book is not intended to enlighten, as the author so states, but to give us the results of experience only. After all, this is what we like best in a text book.

In this text book, the words given to paragraphs on etiologies are exact, modern and digestible. Those no symptomatology are correct and entertaining.

Those on diagnosis inclusive, on prognosis, demonstrating the author's profound knowledge and wide experience. But of all, those given over to treatment are the best because those ineffective and perhaps money getting remedies have been omitted, being displaced by common sense methods, thus eliminating trashy medicines and unsound treatments.

Morse's *Clinical Pediatrics* should certainly be read by all general practitioners doing any amount of children's work while all pediatricians would do well to review the book.

FREDERIC G. DORWART, M.D.

(DISEASES OF THE SKIN) By Richard L. Sutton, M. D., L.L.D., F.R.S. (Edin), Professor of Diseases of the Skin, University of Kansas, School of Medicine. Thirteen Hundred Pages, 1147 Illustrations, 11 Colored Plates, Sixth Edition, Price \$12.00. The C. V. Mosby Co., St. Louis, Mo.

The new edition of Dr. Sutton's is worthy of its predecessors. Beautifully illustrated, eminently authoritative, concise in its description and yet completely covering the known dermatoses.

Modern methods of investigation have brought to light many hitherto obscure problems, particularly the mycotic disorders of the skin and these are very graphically portrayed in the author's inimitable style.

As one is transfixed in beholding a master piece of art or thrilled with a fascinating novel just so is one entranced in perusing this really remarkable and complete work on dermatology.

A. L. STOCKS, M. D.

(HAY FEVER AND ASTHMA) Ray M. Balyeat, A.M., M.D., 198 Pages, 27 Illustrations. F. A. Davis Company, Philadelphia.

A well written handbook for the patient which should give him ample knowledge as to the cause, effects, and cure of his ailment. It is particularly of value to the Oklahoma physicians and hay-fever and asthma sufferers for it is based on a study of this locality. It is presented in non-technical language and will answer, for the busy physician, many patient's queries.

R. A. WOLFORD, M.D.

THE SURGICAL CLINICS OF NORTH AMERICA (Issued serially, one number every other month.) Volume VI, Number III (Lahey Clinic Number—June 1926.) 214 pages with 54 il-

illustrations. Per Clinis year (February 1926 to December 1926.) Paper, \$12.00; Cloth \$16.00 net. Philadelphia and London: W. B. Saunders Company.

Among the important contributions to this issue will be found the "Medical Management of Patients Before Operation for Hyperthyroidism", By Howard M. Clute and Robert L. Mason. They point out the value, as well as the dangers or impotency of iodine medication, the value of rest, diet and the importance of noting the presence or absence of diabetes in the patient. "Removal of the Cervix in Hysterectomy for Benign Lesions" by Frank H. Lahey; "The Effect of Iodine On the Pathology of Exophthalmic Goiter" by Richard B. Cattell; "The Chronic Cardiac as a Surgical Risk", "Congestive Heart Failure and Angina Pectoris in Surgical Patients" by Burton E. Hamilton, "The Treatment of Emboli in the Peripheral Vessels"; "Modern Conceptions and Management of Biliary Tract Disease"; "Cholecystectomy"; "Hyperthyroidism Persisting After Thyroidectomy"; "The Necessity for Post-operative Examinations in Toxic Goiters"; "The Scheme of Management of Gastric and Duodenal Ulcer in This Clinic" by Frank H. Lahey; "Ethylene: Uses and Precautions"; "Spinal Anesthesia" by Lincoln F. Sise, and "End-Results-Clinical, Chemical and Mechanical-In Twelve Pylorotomies", Sara M. Jordan.

DISEASES OF THE NEW-BORN; A Monographic Handwork. By John A. Foote, M.D., Professor of Diseases of Children, Georgetown University Medical School. Including Chapters by Prentiss Wilson, M.D., James M. Moser, M.D., William F. O'Donnell, M.D., Frederick J. Eichenlaub, M.D., and John F. O'Bryan, M.D., of the Faculty of Georgetown University Medical School, Illustrated, 231 pages, Cloth, 1926, Price \$5.00, J. B. Lippincott Company, Philadelphia.

The author states, quoting Montaigne, "I have gathered a bouquet of other peoples' flowers and only the thread that holds them together is my own", that "over thirty-five per cent of our total infant mortality occurs within the first two weeks of life, and it is estimated that in 1921 in the United States over 85,000 new-born infants died within two weeks after birth." This fact makes any serious effort to lower this unnecessary mortality well worth while. Other publications and authors are given due credit. A wide range of clinical medicine has been drawn from to make the book the interesting work found upon reading.

THE SURGICAL TREATMENT OF GOITER.

By Willard Bartlett, A.B., A.M., M.D., D.Sc., F. A. C. S., St. Louis., with Foreword by Dr. Charles H. Mayo, Rochester, Minn., with 130 original illustrations, Cloth, 365 pages, Price \$8.50, 1926, C. V. Mosby Company, St. Louis.

This work is a masterpiece upon the selection of operative cases, preparation for operation and aftercare with an elaborate description, illustrative and textual, of the best accepted operative technic. The illustrations are especially fine. The work is divided in Historical and Personal, Pathology, The Heart in Goiter, Unusual Manifestations of Goiter, Indications, The Patient Who Needs Two Operations, Preparation, Ligation, Position During Operation, Anesthesia, and, under Details of Technic are to be found chapters on The Skin Incision, The Ribbon Muscles, The Upper Pole, Display of the Goiter, The Actual Resection, Packing and Draining, and Closure and Dressing. There are special chapters on four types of thyroidectomy, Complications and After-Treatment. Dr. Bartlett is to be congratulated upon placing the results of his highly technical experience before the profession.

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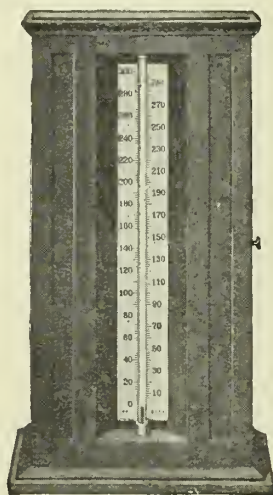
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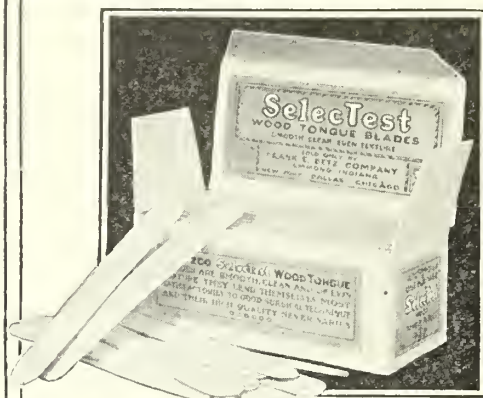
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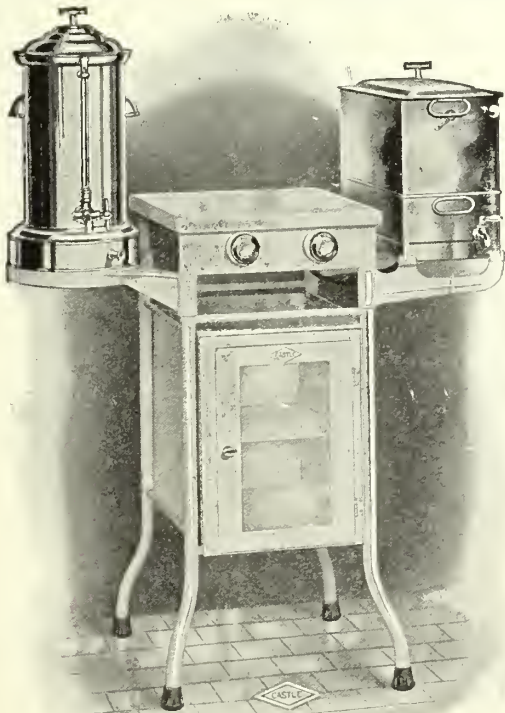
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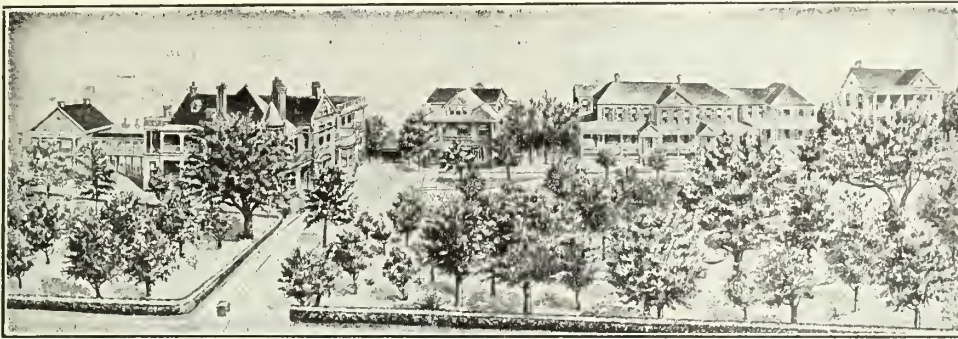
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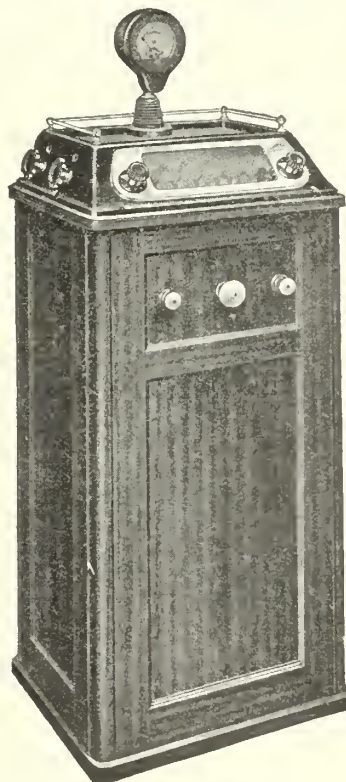
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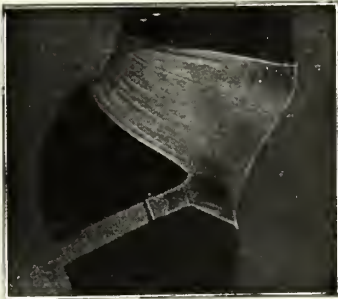
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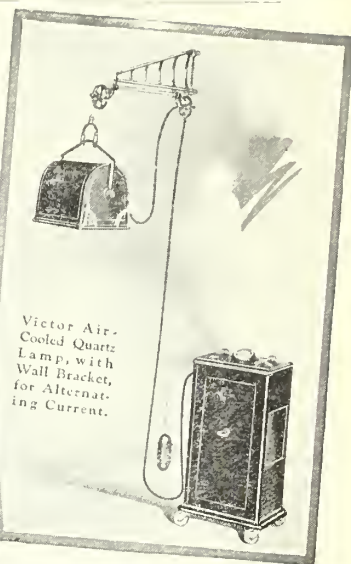
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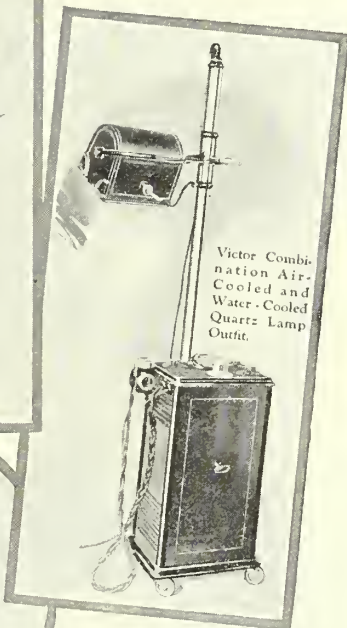
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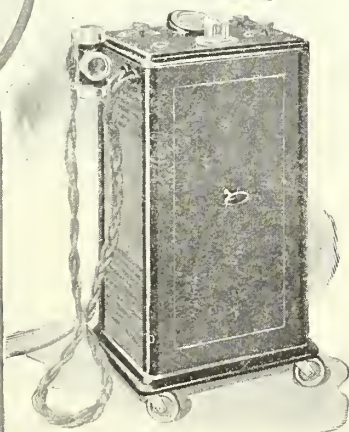
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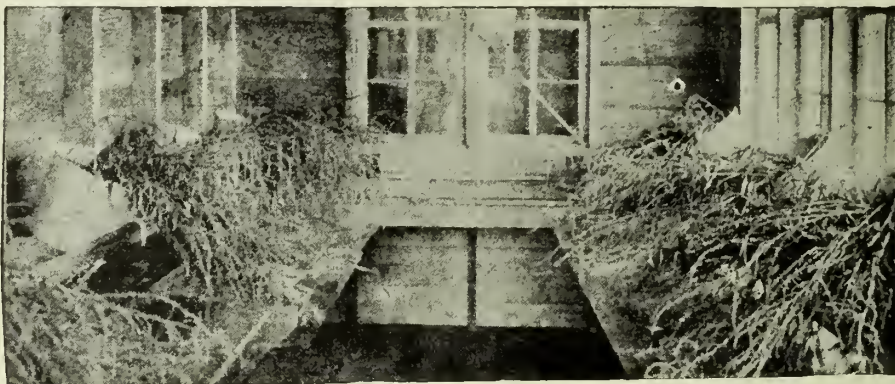
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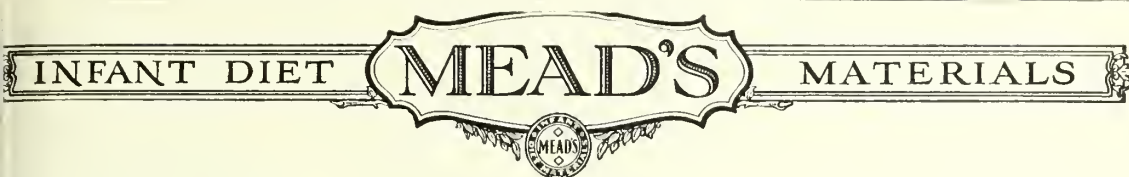
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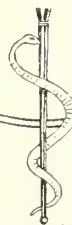
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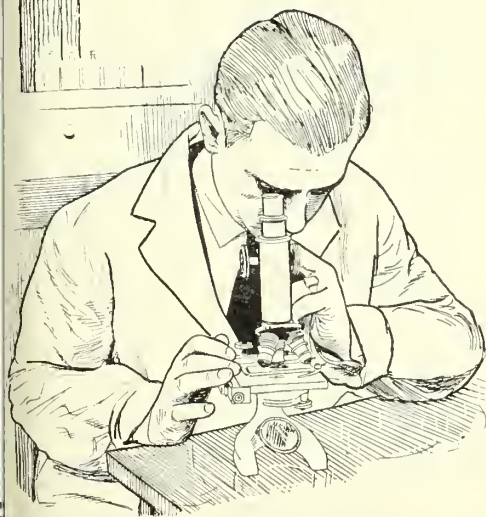
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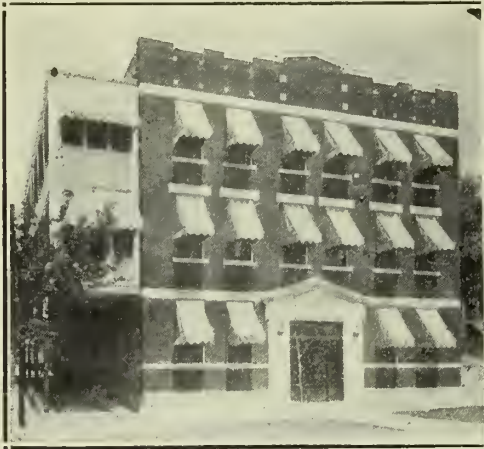
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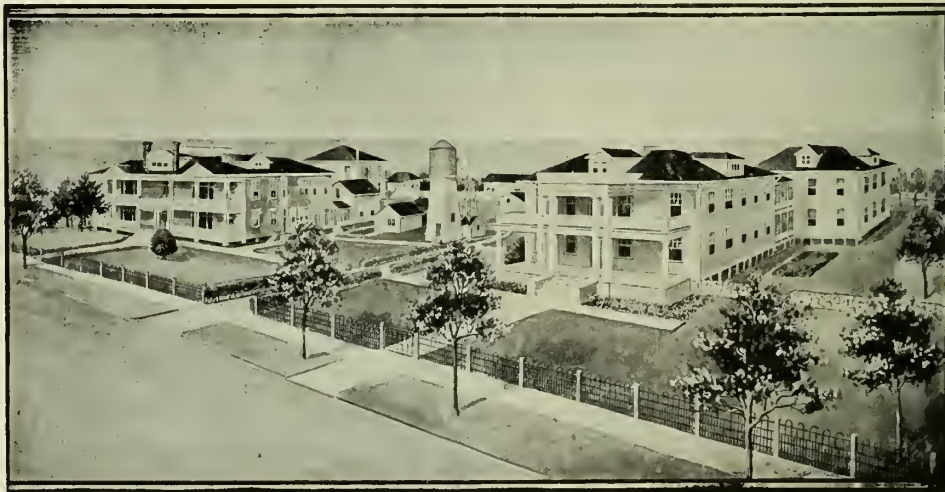
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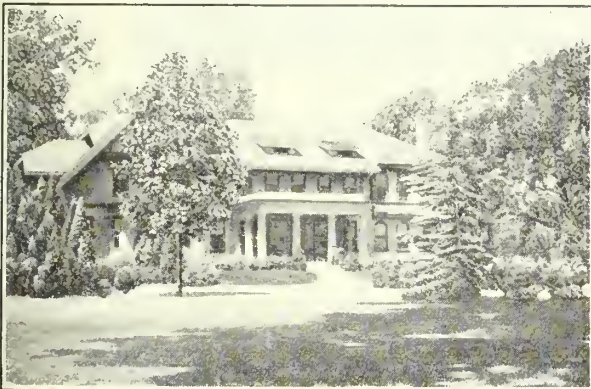
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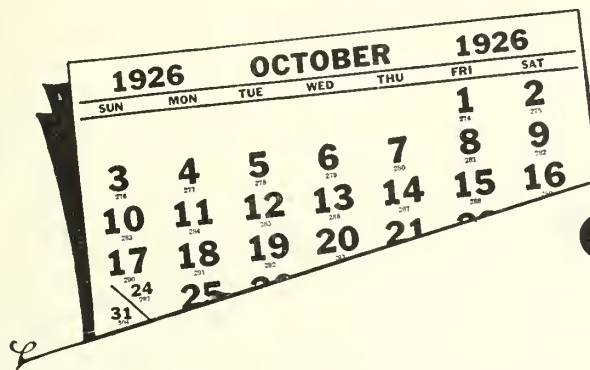
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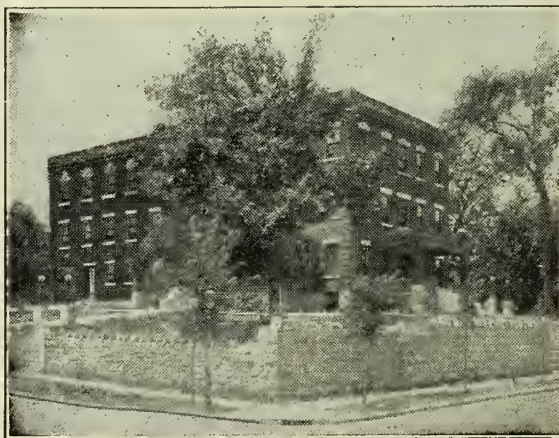
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OF THE
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VOLUME XIX

MUSKOGEE, OKLA., OCTOBER, 1926

NUMBER 10

TUBERCULAR PERITONITIS*

RALPH A. MCGILL, M.D.
TULSA

Tuberculosis of the peritoneum is not an uncommon condition as was for so long considered. The surgeon of the present day has a double interest in peritoneal tuberculosis, which was for so long termed an exclusive medical condition. First, because he is called upon to differentiate it from the various diseases of the abdomen, and secondly, to pave the way for its cure by the performance of a laparotomy. And truly surgery, which had its beginning in 1862 when Spencer Wells, mistaking the encysted dropsy of tubercular peritonitis for an ovarian cyst, opened the abdomen, has greatly increased our knowledge of the disease.

Tuberculosis of the peritoneum occurs at all ages, but, clinically the incidence is most frequent in patients between the ages of twenty and forty. However, it may occur in advanced life. One case was reported in a woman eighty-two years of age. It is common in children associated with intestinal and mesenteric disease, occasionally coming on during the first year of life. Statistics show that more than twice the number of cases are found in women than men. The invasion by the fallopian tubes naturally occurs in explaining the greater prevalence with females.

ETIOLOGY

To determine the mechanism of infection is one of the most difficult problems presented in this particular exhibition of tuberculosis. While the invasion is most common through the lymphatics, the virus reaching the mesenteric glands, thence to the peritoneum, undoubtedly lesions of the intestinal tract often provide direct access. Many pathologists assert that infection may take place through the intestinal coats without any recognizable at-

rium. However, peritoneal tuberculosis commonly presents itself independent of lesions of the thoracic organs or remote lymph glands. It is also an accepted teaching that pathologic bacteria are carried through the portal circulation and eliminated with the bile, thus providing a common means of infecting the gall bladder and ducts. With these facts now well established it is apparent that primary infection of the peritoneum may be obtained directly and also through lymph and virum channels. The most satisfactory division of these primary foci is into:

(a) Those in distant portions of the body i. e. extra abdominal.

(b) Those within the abdominal cavity (exclusive of tuberculosis of the urinary tract in the female and the genito-urinary tract in the male.)

In the first group the infection is hematogenous. In the second group the bacilli involve the peritoneum either by continuity of the infection in the tissues or by way of the lymphatics, or as a result of ruptured tuberculosis mesenteric lymph-nodes.

The most frequent extra abdominal primary foci are the lungs, cervical lymph nodes, bones, tonsils, epididymus, seminal vesicles, kidney and testicles. The most common intra-abdominal sources of infections are; appendix, small and large intestine, fallopian tubes, mesenteric lymph-nodes, spleen, liver, gall bladder and stomach.

The tonsils readily transmit tubercular bacilli to adjacent structures, and so doubtless do the corresponding intestinal follicles. The appendix has a histologic characteristic in common with tonsils in that its lymph tissue lies open on the mucosa. Since it resembles the tonsil, the appendix has an affinity for the tubercle bacilli, and is a common focus of infection. The lower ileum and cæcum are also localities of marked susceptibility as shown constantly on the operating table. The fallopian tubes, the appendix, and in-

*Read before the Section on Surgery and Gynecology, Annual Meeting, Oklahoma State Medical Association, Oklahoma City, June 22, 23, 24, 1926.

testinal areas mentioned are by far the most common foci of tuberculosis invasion of the peritoneum.

SYMPTOMS

In certain special features the tuberculous, varies considerably from other forms of peritonitis. It presents a symptom-complex of extraordinary diversity. Many cases are diagnosed as "nervous dyspepsia," chronic, gastric, or intestinal catarrh. When a careful examination of the abdomen would already reveal an effusion or palpable tubercular masses. This oversight is due to the fact that in the early stages, the disease has no specially characteristic symptoms to draw attention to its existence, and it is therefore most important to examine carefully and repeatedly patients who complain of indefinite discomfort in the abdomen.

This indefinite discomfort consists of loss of appetite, a sensation of pressure in the stomach and bowels during digestion, irregularity of the stools, occasionally diarrhoea, attacks of colic, and a vague feeling of heaviness and soreness in the abdomen. Occasionally dysuria. If these symptoms have persisted for several weeks or months the patient becomes weak, loses weight rapidly and becomes anæmic; however, it is frequently the pain that leads the patient to seek advice. The pain may be present from the beginning but is usually not severe until a general malaise and gastro-intestinal symptoms have continued for some time.

DIAGNOSIS

The clinical picture varies according to the pathological changes, hence it is advisable to speak of the different forms of the disease:

(a) The cases in which there is free fluid, i. e. the ascitic form.

(b) Those in which there is no exudate.

Some prefer a division of the cases into the (a) exudative, (b) the adhesive, and (c) the nodular types. This is a very good classification from the standpoint of pathology, but, I have always found the division just given easier to associate with the clinical pictures as we encounter them at the bed side.

Ascitic Form. However, there is no sharp line between these three forms; the cases with free ascites may appear at a later period of the disease with encapsulated fluid. Again the dry, or adhesive

type may reverse at operation, only adhesions and tubercles, in some cases. while in others in which the infection is more virulent are, instead of miliary tubercles we find masses in all stages of caseation.

Local irritation seems to localize the disease, as for example, tuberculosis of a hernial sac, trauma to the abdominal wall seems to set up peritonitis in certain persons already infected with tuberculosis. A patient having a primary focus of tuberculosis, as for example, a pulmonary lesion which has long since healed, may develop peritonitis after some other disease. This sequence has been noted especially after exanthematous fevers and cirrhosis of the liver.

The diagnosis is sometimes very difficult. The most suggestive points for consideration are, the history and the evidence of old tuberculous lesions. If a patient is young and comes from a tubercular family and has some previous tubercular history it requires no complication of ideas to think of tubercular peritonitis. But in the absence of such indications and in an elderly person, even the most experienced practitioner may grope in the dark.

After careful examination of our patient for any striking signs of existing tuberculosis elsewhere in the body we come to the abdomen. It may be quite flat, and without any abnormal dullness but we note a slight rigidity of the muscles, much less than in an early septic peritonitis but it is quite prominent. Palpation is not really painful for the patient but is unpleasant. Such a condition found on repeated examinations ought to excite suspicion. This represents the stage wherein the parietal peritoneum which alone is capable of receiving sensations of pain, has become sensitive because of the implantation of tubercles. Later the sensitiveness becomes diminished by the fluid effusion which lies as a protection between the intestines and abdominal wall, and by adhesions. The stage is common to all varieties, but, its subsequent course varies considerably. In most cases it is possible to detect a movable effusion after a few weeks. Sometimes, however, not until after a few months. The quantity of fluid varies from a few ounces to several quarts. The fluid may be free in the peritoneal cavity, or be sacculated by adhesions. Small cystic tumors may be formed on the wall of the intestines in the region of tubercular ulcer. In the ascitic

type the fluid is thin, straw colored, and seldom coagulates spontaneously.

ENCAPSULATED TYPE

This form of tuberculous peritonitis resembles in many respects an abdominal tumor. Especially is this true of the encapsulated accumulation in the pelvis of the female where the differential diagnosis from an ovarian cyst is sometimes difficult. We also will be likely to have an acute onset in such a condition and the fluid may be of a serous, hemorrhagic or even purulent in character and not infrequently a diagnosis is impossible before operation owing to the resemblance to other forms of abdominal tumors. On opening the abdomen we find the coils of the intestines plastered together with enlargement of the mesenteric lymph-nodes and a rolling up of the omentum. Between the coils of the intestines we find fluid. There may be any number of such encapsulated areas in the abdomen.

ADHESIVE TYPE

This type of tubercular peritonitis is found in various stages according to the virulence of the organisms. In the milder forms we find the peritoneum studded with miliary tubercles, while in the more severe cases we find an agglutination of the tubercles with caseation combined with the agglutinated coils and intestines along with adhesions of the omentum which form an almost inseparable mass. The clinical picture in this, the dry or adhesive form is a more deceptive one than of the other two types. As was mentioned before there may be an acute onset with gradual loss of strength and weight and an increasing distention of the abdomen without evidence of free or encapsulated fluid. Such a picture should always make one suspicious of a tubercular peritonitis and a careful search should be made for evidence of a primary or extra abdominal foci.

ACUTE FORM

Usually the disease begins insidiously but in the cases with an acute onset there is a great resemblance to the ordinary pyogenic forms of infection. In addition to the history of an acute onset without predisposing symptoms, we find a high temperature, sometimes, 103 or 104 a leucocytosis and pain of a localized or more diffuse character, vomiting, distention, and a rapid pulse. As a rule the rigidity of the muscles is not so pronounced. The pulse rate does not show the characteris-

tic septic peritonitis. The blood pressure is low. Leukopenia is the rule rather than a leucocytosis. But in those cases where we have a leucocytosis there is also an increase in the small mononuclears, instead of the polynuclears.

DIFFERENTIAL DIAGNOSIS

The diagnosis in the purely exudative or ascitic type is sometimes confused with cirrhosis of the liver especially if the patient is elderly and a previous addiction to alcohol cannot be excluded. In such a case an evening rise in temperature points to tubercular peritonitis, but, a normal temperature is no argument against it. A firm consistence of the liver if it be palpable and a pronounced enlargement of the spleen are points in favor of cirrhosis, whereas, tenderness on pressure and spontaneous pains are in favor of a tuberculous condition. However the fact must not be forgotten that tubercular peritonitis sometimes causes cirrhotic changes in the liver.

Tuberculosis of the peritoneum may also be confused with a chylous ascites more specially if the latter comes on as the result of a tubercular swelling of the retroperitoneal glands. It is, however, distinguished by rapid onset of debility and the great enlargement of the abdomen. A definite diagnosis can be made only after exploratory puncture.

In a differential diagnosis of tubercular peritonitis, typhoid fever must not be overlooked, especially in that group of cases which stand mid-way between the acute and chronic form and may be given the name subacute. For example:

A young girl, nineteen years of age, consulted her doctor, because she had not been feeling well for several days. This was accompanied by general malaise, anorexia, with gradual increasing stupor, and fever of the continuous type, going higher in the afternoon, nose bleed, and a tympanitic abdomen. The case resembled one of typhoid fever in every respect and was treated as such for a period of three weeks. There was no improvement in her condition and the abdomen gradually enlarged. An exploratory puncture was made. Approximately three quarts of fluid evacuated. The fluid was typical of tubercular peritonitis. The patient was observed for a period of two months at the end of which time there was a repeated enlarge-

ment of the abdomen with general malaise and loss of strength. Her temperature ranged from 99 to 101. At this time a laparotomy was performed which was three months after the onset. On opening abdomen, I found a large amount of free fluid, and the peritoneum was studded with tubercles. The fluid was evacuated and the appendix removed, the appendix in this case seemed to be the focus of infection. The abdomen was closed without drainage. Post operative recovery was uneventful. I saw the patient one year later, there was no evidence of any abdominal ascites. In fact she was well and a picture of health.

Among the more rare conditions to be differentiated from tubercular peritonitis with free fluid in abdomen we must take into consideration the following:

1. Banti's disease.
2. Disease of the pancreas; such as chronic pancreatitis, abscess or malignancy of the pancreas.
3. Cardiac decompensation.
4. Portal thrombosis.
5. Pick's disease.
6. Cancer and lues of the peritoneum.

These conditions can usually be ruled out after careful history and complete physical examination. However at times it may be necessary for exploratory puncture and examination of fluid. Ascitic fluid as a rule is straw color but does not contain more than one-half of one per cent of albumen. Specific gravity is 1012 to 1014; microscopic examination, is usually negative.

Among conditions to be differentiated from encapsulated form in tubercular peritonitis is disseminated carcinoma. A painstaking inquiry into the history and a careful physical examination will often determine the primary cause in tubercular peritonitis. Young subjects are more apt to have tuberculosis than cancer. The tuberculin test is not reliable. A history of previous ascites with sweats and tachycardia favors tuberculosis. Fever and bradycardia are more commonly found in carcinoma. Carcinomatous masses are usually of a wooden consistency. Since peritoneal cancer is usually a complication of intestinal disturbance, the gastric analysis will be of much value in the diag-

nosis. If the Boas-Oppler bacillus are found together with absence of H. C. L. this in itself is pathognomonic of cancer.

Perhaps the most common condition to be differentiated in the encapsulated form of tubercular peritonitis is a cyst of the ovary, for example:

A woman thirty-five years of age was seen by her family physician because of an enlargement of the abdomen. The history obtained was as we often find, a loss of weight and strength, general debility and occasional rise in temperature. Diagnosis was ovarian cyst. On opening abdomen I found a large amount of fluid contained within a very thin sac, ovaries were small and sclerotic. The peritoneum was studded with tubercles. The fallopian tubes were small and ropy, probably tubercular. Fluid was evacuated, both tubes removed and abdomen closed without drainage. Patient made an uneventful recovery. Three months later there was no evidence of a recurrence. I have not seen her since that time.

As stated above the diagnosis in these cases is sometimes very difficult and very often operative measures are necessary before a definite diagnosis can be made.

TREATMENT

Surgery attains its best results in the disseminated serous form. It is of a comparatively limited scope in the fibrous and ulcerous varieties. The purpose of the operation is to remove the products of the tuberculous process, the focus of infection, and prevent mixed infection. In such cases where a primary cause can be removed we obtain brilliant results. Most of our leading surgeons advise against a hasty operation unless the primary focus can be determined, and because of a tendency of the condition to a spontaneous cure.

Good results are however obtained in the ascitic and encapsulated forms from laparotomy, where focus is not found, by evacuation of the fluid and exposure of the peritoneum to the air. The theory being that when the accumulated serum, remaining after nature's successful contest, is suddenly evacuated, it is replaced by serum possessing bactericidal properties. However varied the theories may be the clinical fact that cure follows operation in a large percentage of cases is unquestionable. The per cent of cures as given by various surgeons is from twenty-five

to eighty percent. With proper selection of cases, and especially by extending the surgical procedure, it is reasonable to expect seventy-five percent of cures. John B. Murphy's theory for cures in this type of cases is the inflammatory reaction with cell proliferation which encapsulates the foci on the serous surface.

For obvious reasons the operation should be after, rather than during an acute attack. The technique of the operation should consist in men preferably a right rectus incision so as to afford ready access to the appendix and ileocaecal structures. In women the incision should be in the median line with patients in the Trendelenburg position. The fluid is evacuated and the peritoneum is cleansed, the foci of infection is removed whenever possible. The most delicate and careful manipulation must be observed in order to avoid injury to the intestinal coats, also in breaking up adhesions extreme care must be taken, because of a tendency to fecal fistula resulting from handling.

Temoin, of Paris, has operated a very large number of these cases. He makes a habit of operating only on sunny days and having patient in such a position that the rays of sun will penetrate the abdomen when opened.

Incision is long and the margins of the wound are retracted and the sunlight allowed to penetrate the abdomen for 10 to 15 minutes. The abdomen is closed without drainage and these cases as well as those of the dry nodular type, where surgery is not advisable are given the sun baths, beginning on the eighth day, the abdomen is exposed to the sun rays for an hour or two each day. They receive the same hygienic treatment as those non-operative cases, which is same as for tuberculosis anywhere in the body, namely, good food, fresh air, sunshine, and rest. Temoin in a series of over three hundred cases reports eighty-percent cured.

Inflating the peritoneal cavity with oxygen has given some good results. Perhaps the best results will be obtained in the dry type of tubercular peritonitis, the advantage being that such a procedure can be carried out with little difficulty and repeated until cure is established. It may also be used after a paracentesis in the ascitic type, where the foci of infection is extra-abdominal, with good results.

This Alpine Lamp has been used and some good results reported.

Heliotherapy and X-ray, have also been instituted in the treatment of tubercular peritonitis with good effects.

In conclusion the treatment of tubercular peritonitis depends largely on the type. The dry or nodular type is less amenable to surgery and is perhaps best treated like a tuberculous condition elsewhere in the body. However in spite of all other methods of treatment advanced, surgery seems to impart such surprising curative power to the peritoneal reaction which follows that it suggests that the clue to the cure of tuberculous peritonitis in general lies in this direction.

Discussion: V. K. ALLEN, M. D.

In presenting his subject Dr. McGill has covered the entire subject of tubercular peritonitis quite well. He has discussed the different stages as evidenced by the progression of the disease. He has advisedly spoken of the insidious onset of the progress of this condition and here and later, of the differentiating points. The differential diagnosis is extremely difficult, as tubercular peritonitis has been confused with every pathological entity found in the abdomen. It is most frequently diagnosed as cardiac or renal disease, or maybe typhoid, and in the female as ovarian cyst.

In 98 cases quoted by Heyde, 80 were diagnosed as ovarian cysts. Portal cirrhoses is frequently mistaken for tubercular peritonitis and is commonly supposed to be associated with this disease; but on careful study of the liver in these cases it will be found that tuberculous process has involved the liver as well as the peritoneum.

Tuberculosis may involve any structures of the abdomen, but only when it attacks certain ones can surgery be of value. Naming these in order of most frequent involvement they are peritoneum, fallopian tubes, appendix, caecum, ileum, colon, stomach and spleen. The peritoneum is the structure most frequently involved because it is often the primary site of tuberculosis, as well as frequently being secondarily involved when the primary focus is one of the abdominal organs.

It seems to me that more stress could be given to the treatment of this disease. When one stops to consider that 50 per

cent of these cases recover if they are treated along the lines now so generally carried out in cases of pulmonary tuberculosis, that is rest, food, fresh air and light, natural and artificial. We may readily admit that the treatment may be divided into medical and surgical. Even with surgical measures in the other 50 percent it is necessary to combine the same medical procedure.

For many years the main surgical measures in these cases has been to open the abdomen, drain out the fluid and expose the abdominal contents to the air for a few minutes. This has gotten some excellent results, especially so when the process is not too acute or too far advanced. An added advantage that this procedure has is that the operator may remove the appendix, tube or other point of the original focus.

Some operators found that they got better results when, after operation, the abdomen was filled with oxygen or filtered air. More recently many authorities have dispensed with the laparotomy and instead, have injected oxygen or filtered air into the abdominal cavity in proportion to the amount of fluid removed. This air or oxygen usually disappears in two or three days and in the mild cases of peritonitis it is unnecessary to repeat this treatment. In the further advanced cases it may be necessary to repeat for some five or six times. Some excellent reports have been given to this procedure even in the more severe types. However some believe that it has little value in the plastic or caseating types of peritonitis.

As is true in the operation of performing pneumothorax, there are certain risks in inflating the abdominal cavity. If sufficient caution is used, however, these risks are not great enough to keep us from carrying out the procedure in suitable cases. The patient should have a purgative eight hours before operation and no food for six hours prior to the procedure. The bladder should be empty and the abdomen prepared as for other surgical measures.

The site of puncture is preferably to the left and below the naval about 1 1-2 inches but may be any where over the abdominal area which does not interfere

with the tubercular masses or the solid viscera. The area through which the trocar and canular is inserted should be well anesthetized down to and including the peritoneum, if caution is used there is little danger of injuring the intestines. After the fluid is removed the pneumothorax apparatus is attached to the canula and the oxygen allowed to pass in under gentle pressure until some distention is felt. This is usually 1000 to 1200 C. C. of gas. The canula is now removed and a surgical dressing applied to the wound.

Another form of treatment which deserves special mention is the use of light, natural and artificial. Heliotherapy has given excellent and very permanent results in non-operative cases, and in all patients before and after operation. The Rollier system of sun treatment when carried out properly gives probably better results than artificial light methods. It should be given in the open air, as glass filters out the beneficial and penetrating rays.

From the beginning the following method should be carried through:

First Day—The patient, his eyes and head protected and dressed in trunks should be placed in the sun. The body is covered and the feet only are exposed for five minutes, three or four times at hour intervals.

Second Day—The feet are insolated for ten minutes and the legs to the knees ten minutes at the same interval as previous day.

Third Day—The feet are exposed for fifteen minutes, the legs for five, three or four times at hourly intervals.

Fourth Day—The insolation of the previously exposed parts is increased for five minutes, and the abdomen is exposed for five minutes at the same interval.

Sixth Day—Again the insolation of the previously exposed parts is increased by five minutes and the chest is exposed five minutes at the same interval as before. The next day the patient is turned on his abdomen and the same course followed as above. The solar radiation is increased five minutes each time until three or four hours daily are taken. The length of time of exposure depends on the amount of tan produced. Cases with deep pigmentation may be exposed for longer periods of time. The patient must at all times be protected from the wind.

FURTHER OBSERVATIONS ON THE TREATMENT OF PULMONARY TUBERCULOSIS BY INTRAVENOUS INJECTIONS OF MERCUROCHROME*

BASIL A. HAYES, M.D.

OKLAHOMA CITY

One year ago I read a paper before this Association reporting the results obtained from treating thirty-five cases of pulmonary tuberculosis by intravenous injections of mercurochrome. Owing to the fact that the literature has been full of discussions for and against this drug in various conditions, and since its enemies have condemned it wholesale in the treatment of tuberculosis, I feel it incumbent upon me as one who has found it of great value to elucidate as clearly as possible certain features of its application.

During the past eighteen months I have used it in a total of fifty-seven cases, consisting of two early, nine moderately advanced, thirty-four far advanced, and twelve terminal ones. The two early cases showed little change, but are both clinically well now. Of the nine moderately advanced cases, eight showed marked symptomatic improvement and one showed no change. They are all living now and five of them are arrested cases, while four are much improved. Of the thirty-four far advanced cases thirty showed symptomatic improvement, two showed no change and two were apparently made worse. Eight of them are now dead, while twenty-two are living, improved or arrested, two are living and in approximately the same condition as at the time of treatment, and two are living but worse. Of the twelve terminal cases, nine showed symptomatic improvement for a time and three appeared harmed by the drug. Two of these patients are still living and are improved, while ten have died. These figures total up—forty-seven improved, five no change, five harmed; while the ultimate mortality has been eighteen deaths, two worse, thirty-five improved and two no change.

These patients were treated only after most of them had been under prolonged rest treatment, and several had been

under our care for a year or longer. Treatment ranged from three or four doses up to eighty-five in one case. Several had thirty or more doses. Wherever a patient appeared to get no benefit or showed toxic symptoms, the drug was promptly stopped after one or two doses. The high percentage of terminal cases may be explained by the fact that the county authorities have been sending in only the worst type of cases during the past year, and also by the fact that a number of desperate cases were brought to me during the year in the hope the mercurochrome might save them, after they had tried all else in vain.

It will be observed from these figures that the death rate in tuberculosis has not been lowered particularly by this treatment. Apparently they go on and die just the same eventually, and the only way to determine for a certainty its efficacy in prolonging life would be to follow a large series of cases and compare the ultimate mortality rate with that of cases treated by other methods. As a clinician in daily touch with a group of advanced cases, however, I may say that it is my fixed impression that this drug has prolonged the lives of quite a few of the patients to whom I have given it; and it has certainly increased the comfort of a still larger number. Properly used, it will relieve the cough, promote sleep and appetite, and cause a general improvement in body nutrition in cases that are far past any other form of treatment, though I am frank to say that some cases do not respond to it at all, and to others it appears actually toxic, even in very small doses. The question of how to choose cases has been an everlasting puzzle to me, and I have finally come to the conclusion that no strict rule can be formulated beyond this: Cases that are too weak to respond to any sort of stimulative treatment are unsuitable; cases that are doing well under other forms of treatment should be let alone; cases that develop sore or tender gums or extremely high fever should be given it very cautiously,—but the large class of cases suffering from severe cough and profuse expectoration, nervousness and inability to sleep, moderate fever and poor appetite, yet who have residual strength enough to beat back after getting rest and freedom from toxicity, will, in the majority of instances, obtain considerable relief from it.

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It is very important not to overuse mercurochrome. Its action appears to be in the nature of tissue stimulation against toxins, and if the tissues are over-stimulated they may break and lose their ability to fight at all, just as when tuberculin is given too rapidly. Dr. Young uses and advocates a dose of five milligrams per kilo of body weight in septicemic cases, and explains his results on the basis of sterilizing the blood stream. He expects and obtains a severe febrile reaction after each dose. In tuberculosis, on the other hand, all clinical experience teaches us that febrile reactions are harmful and merely exhaust the patient, without destroying bacteria. In each of my previous papers I advocated a small dose; and I wish once again to emphasize that the dose should never be large enough to cause more than a one or two degree rise of temperature after injection. Febrile reactions cure ordinary infections, and the patient, though exhausted, soon recovers; but in tuberculosis the bacilli multiply in spite of fever, and the more exhausted the patient becomes the less of a fight he can put up. Hence febrile reactions should be avoided studiously. The best results in my cases have appeared from doses of less than one milligram per kilo (one-sixth the size dose advocated by Dr. Young), which gives a dilution of one in eighty thousand in the blood of an average patient and definitely rules out any idea of chemical sterilization of the blood as an explanation of the beneficial result. The only reasonable explanation would appear to be that the drug increases the antibody forming powers of the tissues and enables them to fight harder against toxic substances. This being true, it is folly to give large doses on the theory of sterilizing the blood stream, because the drug then becomes a further toxin in the system of an already poisoned patient. Under these conditions the very symptoms which are already troubling the patient are aggravated by mercurial poisoning, viz., diarrhea, loss of appetite and injury to kidneys. The proper way to give it is in small doses sufficiently often to keep down the toxic symptoms of tuberculosis and no oftener. In my hands this has averaged a dose about every four or five days; and in several cases I have found it better to give it in courses of three or four doses then skip ten days or so and start again.

Much has been said by certain writers about sloughing at the point of injection,

about ulcerative lesions in the kidney and colon, and so on. It has been my good fortune to strike the veins of my patients as a rule, but there have been a few instances where two or three drops were injected into the tissues around the vein. In no single instance has there been anything more than a reddened area during the next twenty-four hours, which caused the patient very little pain, and which promptly disappeared. It might be possible to cause a slough by using a very concentrated solution, or by making the injection intradermally; but since either of these conditions would have to be done with malice aforethought they may be disregarded. As to nephritis, Dr. Young¹ states that he is so sure that it will not cause serious or continuous damage to the kidneys that he does not hesitate to give intravenously even when albumin, casts, pus cells and bacteria have been present in large amounts in the urine. Dr. Dudgeon² reported in the London Lancet January 23rd of this year that he had used it in one hundred and fifty cases of sepsis of all kinds, and had given daily injections for five days without observing any complications which could be credited to it. Two of my own cases received 10 c. c. daily for over two weeks without showing the slightest ill effect beyond a slight rise of temperature. Both are still living and are doing better than I had ever expected them to do before I gave them the drug. I did urinalyses and blood counts on the first twenty of these cases quite frequently, and sufficiently often to prove conclusively to my mind that no clinical signs or symptoms of nephritis developed. Certainly if nephritis is not produced by the dosage used in septic cases, we are perfectly safe in giving doses of one-sixth that size. In a recent article Dr. Trout³ of Roanoke, West Virginia, states that a careful study of its action on animals reveals that in doses up to seven and one-half milligrams per kilo the only lesions produced were cloudy swelling of the renal epithelium and liver cells. This was variable and occasionally severe. In contrast to the charges of harmfulness of the drug, stand the findings of DeWitt six years ago when she found that tuberculous animals treated with it lived definitely longer than those not treated. Since the publication of my first paper I have been informed by Young and Hill⁴ that they have varified DeWitt's work in their laboratory at Baltimore.

Mercurochrome is not a treatment for tuberculosis which should supplant any other standard method of treatment. It is another method which may be used to supplement existing treatments, and is a way which can be used when all others fail. Rest in bed, pneumothorax and mercurochrome are the only real treatments that I know of for tuberculosis; and when rest fails to relieve and pneumothorax cannot be given, what then? The friendly hand of mercurochrome reaches out to the weary sufferers, relieving and prolonging the lives of six out of ten. In the words of Dr. Trout, "it gives us one more thing to do" in those cases where all else has failed. And after all that is all any treatment for tuberculosis can offer at present.

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TUBERCULOSIS IN THE EX-SOLDIER

C. E. BATES, M.D.

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The diagnosis and treatment of tuberculosis constitutes a very important activity of the Veterans Bureau. Never were so many cases of tuberculosis under the supervision of one organization. The Veterans Bureau has at its disposal over 11,000 beds in hospitals designated especially for the treatment of this disease. The opportunities for educating the public, with reference to tuberculosis, through the medium of the tuberculous ex-service men is unlimited.

In order to maintain a uniform terminology the classification used by the National Tuberculosis Association has been adopted. The term tuberculosis pulmonary chronic is modified as *Minimal*, *Moderately Advanced* or *Far Advanced* according to the degree of extension. Slight involvement in one or both lungs is classed as minimal. Involvement equal to the volume of one lung with no cavitation or complications is classed as moderately advanced and the far advanced cases are those with extension beyond the volume of one lung with cavitation or complications. The symptoms are classed as A, B and C. The A symptoms are slight or no toxemia, loss in weight or rapid rest-

ing pulse. The B symptoms are evidences of toxemia but no marked impairment of function. The C symptoms include progressive toxemia and impairment of function. A minimal, moderately advanced or far advanced case may show A, B or C symptoms.

In an organization as large as the Veterans Bureau it is necessary to have some uniform standard upon which to base a diagnosis of active tuberculosis. This becomes of special importance when the claimants are examined and rated in various sections of the country. A diagnosis of active pulmonary tuberculosis will be considered as established when two or more of the following are present.

1. Sputum positive for tubercle bacilli.
2. Pleurisy with effusion.
3. Cavity or pneumothorax.
4. Active tuberculous lesion evidenced by definite physical findings indicating a tuberculous involvement most characteristic of which are typical indeterminate localized persistent moist rales (crepitant and subcrepitant) in the upper lobes manifest on inspiration after expiratory cough.
5. Active tuberculous lesion evidenced by active toxemia manifest by one or more of the following symptoms: fever, loss in weight, rapid resting pulse, and lack of endurance.
6. X-Ray findings showing cottony density, cirrhus clouding, or areas of rarefaction surrounded by annular shadows diagnostic of infiltration caseation or cavitation.

Hemoptysis definitely established as such and not due to some other obvious cause may be regarded as an additional criterion of active pulmonary tuberculosis.

Retraction about the upper third of the chest, deviated trachea, friction rubs, dilated venules on the upper anterior chest, clubbed fingers and curved nails are important diagnostic points and when present are usually accompanied by two or more of the above requirements.

Failure for a truly active case to meet these requirements is more often due to a lack of application on the part of the examiner than to strict requirements. Even

the case of adult hilum tuberculosis with no rales show two of the above signs.

Herein are listed some of the signs not considered diagnostic of active pulmonary tuberculosis in the absence of other signs in the same portion of the lungs; slight harsh breath sounds with slight prolonged expiration in the second interspace near the sternum, above the clavicle and opposite the third thoracic spine on the right; fine crepitation over the sternum heard when the stethoscope touches that bone; clicks heard during strong respiration in the vicinity of the sterno costal articulations; the so-called atelectatic rales at the apex during the first inspiration, sounds resembling rales at the base limited to inspiration (marginal rales), slight harshness of respiratory sounds with prolonged expiration in the lower paravertebral regions of both lungs posteriorly most marked at the angle of the scapula; granular breathing resembling rales heard at the apices. In the presence of a strongly positive Wassermann and in case of hook worm disease with ova demonstrated in the feces, the presence of moist rales in the chest will not be considered in itself diagnostic of active tuberculosis.

Some of the diseases to be differentiated from tuberculosis are; syphilis of the lung, hook worm disease, bronchiectasis, bronchial asthma, and chronic bronchitis.

Bronchiectasis simulates well established rather than early tuberculosis. Bronchiectasis and bronchiolectasis in varying grades are common in chronic bronchitis especially the types following war gas inhalation. The main points likely to be of value in differential diagnosis are:

1. History of paroxysmal cough with expectoration of large amount of foul smelling purulent sputum which is negative to tubercle bacilli. It is not uncommon for these cases to raise four to six ounces of sputum upon arising and an equal amount may be expectorated late in the afternoon.
2. Extreme clubbing of the fingers is so commonly associated with dilatation of the bronchi as to be of decided value in diagnosis.
3. Lung distribution—for the most part tuberculosis is apical and bronchiectasis is basal.

4. The physical signs are few compared with the cough and expectoration.
5. The good general nutrition and absence of constitutional disturbance may help to give the clue in a case whose widespread distribution could hardly admit on these grounds of a tuberculous explanation.
6. X-ray examination showing dilated bronchi or sacculated cavitation at bases with the apices relatively clear.

In the presence of a strongly positive Wassermann, rales alone are not diagnostic of tuberculosis. However, syphilis of the lungs is rare. Norris and Landis state that diagnosis of pulmonary syphilis is invariably made by exclusion. The diagnosis is never justified unless the following are present: basal pathology, sputum negative for tubercle bacilli, Wassermann strongly positive, X-ray evidence of fibrosis found particularly at the bases, lung pathology which clears up rapidly under anti-luetic treatment.

In hookworm disease the parasites enter the lymphatics through the skin. They are then carried to the general circulation, distributed through the right heart to the lungs then into the air vesicles, the bronchi, the trachea, and finally into the small intestines through the stomach. The poorly developed chest, anemia, shortness of breath, emaciation and lack of endurance with rales in the chest might lead one to make a diagnosis of tuberculosis. The anemia is more marked than in tuberculosis, for in the latter disease the anemia is in the superficial vessels and is more apparent than real.

The presence of ova in the stool and the improvement under treatment help in clearing up the diagnosis, and the more general use of shoes and the improved sanitary conditions make the disease less common.

It happens sometimes that pulmonary tuberculosis starts under the guise of a typical asthma. Rivier cites a case of this type. The simulation of asthma is mainly in the symptoms, the signs are those of tubercle, but generally of a quiet variety with but few moist sounds and masked in many cases by emphysema and perhaps by bronchitis.

The differentiation between active tuberculosis and chronic bronchitis is one of the most difficult problems. Certain competent clinicians hold that chronic diseases of the bronchi are not predisposing to tuberculosis. A few claim the two diseases are antagonistic. It seems unfair to the claimant to assume that no relationship exists. Fibrocaceous tuberculosis may involve a restricted area of the lung and may persist for years presenting the common clinical picture of chronic bronchitis with seasonal exacerbations. Certain cases of chronic catarrhal bronchitis with scant sputum show a marked tendency to an apical distribution and due to the bronchiolitis obliterans and atelectasis give rise to indeterminate rales at the apex.

Chronic bronchitis may complicate active tuberculosis making the diagnosis more difficult.

It has never been shown that the war gases predispose to tuberculosis but the Medical Director of the Bureau has recently appointed a commission of which Dr. Krause is chairman to study the after-effects of these gases. This will necessitate the study of about 70,000 cases.

Burning pains in the chest, sensation of weight under the sternum, cough and wheezing subject to changes in weather conditions, paroxysms of coughing while lying down, productive cough upon arising, with tenacious mucoid or mucopurulent sputum which contains grey lumps or possibly small streaks of blood and is negative to tubercle bacilli, mixed rales widely scattered throughout, most marked at the bases, over a period of several months to several years with absence of loss in weight, toxemia or constitutional disturbance and absence of X-ray findings indicative of a tuberculous lesion are just grounds upon which to base a diagnosis of chronic bronchitis.

With reference to activity the Veterans Bureau has adopted the classification of the National Hospital Association. The disease may be active, quiescent, apparently arrested, arrested, and apparently cured. Quiescent is a relative term and cannot be accurately used unless the patient has been under constant observation and the reaction to exercise has been determined. It applies to those cases that are pathologically active and clinically inactive. A case is said to be apparently arrested when there is absence of symptoms and physical signs for a period of

three months and the X-ray findings are those of a stationary or retrogressive lesion. When the same conditions have persisted over a period of six months the disease is said to be arrested, and if the patient under ordinary conditions of life presents the same findings over a period of two years he may be classed as apparently cured.

CHRONIC VILLOUS TYPE OF ARTHRITIS DEFORMANS*

SAMUEL GOODMAN, M.D.
TULSA

Arthritis deformans is today one of the most formidable and distressing diseases which the medical profession is called upon to combat. Although known to the ancients dating back about 3200 years, it was not until the middle of the 19th century that Adams of Dublin accurately described the disease, called by him "chronic rheumatic arthritis." Up to a comparatively recent time much confusion has existed regarding its clinical entity. The view that there was a distinct relationship between this type of arthritis, gout, and rheumatism was generally accepted. The term at present, however, is used to designate a non-suppurate arthritis, having a tendency to cause stiffness and deformity of the joints. Furthermore this condition is not caused by gout, rheumatism, acute infectious processes, during the course of such diseases as typhoid and pneumonia, organic diseases of the nervous system, namely as a Charcot joint, or hemal condition such as purpura. That the importance of this serious problem has been overlooked until now is evidenced by the fact that just recently clinics for its exclusive study have been established in some of the larger cities of the United States and Canada.

Cases of arthritis deformans have been classified by different authorities from the standpoint of etiology, from clinical and radiological findings, and from a pathological basis. This can easily be appreciated by noting the classifications found in numerous text books and papers written on the subject. Michols and Richardson ⁽¹⁾ have through their investiga-

*Read before the Section on General Medicine, Neurology, Pathology and Bacteriology, Annual Meeting Oklahoma State Medical Association, Oklahoma City, June 22, 23, 24, 1926.

tions submitted a classification on a sound pathological basis in which two distinct types are recognized; 1. Proliferative. 2. Degenerative. They further recognize that these types are not distinct diseases, but that they represent the reaction of the joint tissues to a variety of conditions.

The proliferative type, or atrophic arthritis, is characterized by a tendency to destroy the articular cartilage and to produce bony ankylosis of the adjoining tissues. The pathological state proceeds in the following manner. Granulations appear on the synovial membranes with proliferation of the tissues about the joint. This proliferation occurs both in the connective tissues and cartilage. It may also occur in the epiphysis. By extension from one or all of these there is a destruction of the cartilage. The proliferation of the perichondrium leads to the formation of a connective tissue which may become cartilaginous or bony. Due to the destruction of the cartilage there is a fusion of the new tissues, producing an obliteration of the joint cavity and varying degrees of ankylosis. This ankylosis may be fibrous, cartilaginous, or bony, depending upon the type of tissue predominating. There is no tendency to eburnation.

The degenerative type, or hypertrophic arthritis, is characterized by a tendency to destroy the articular cartilage and produce bony deformity and overgrowth without ankylosis. The pathological state proceeds in the following manner: (note reference). The hyaline cartilage becomes degenerated through fibrillation. This produces a softening and erosion of the cartilage with exposure of the ends of the underlying bone. While this destruction goes on in one place there is a compensatory hyperplasia of the cartilage in another so that the surfaces are irregular and the articulating surfaces remain intact. The bone underneath becomes compact. Under constant friction the bones have a tendency to become eburnated. The limitation of motion in this type is largely due to mechanical interference. The enlargement and deformity of the joint is due to compensatory hyperplasia of the perichondrium and articular cartilage.

Chronic villous arthritis is a comparatively common condition seen mostly in women. It is characterized by its predilection for the knee joints, its varying

degrees of stiffness and pain, noted especially when climbing stairs or when changing position such as from a sitting to a standing position and vice versa, its peculiar grating or crepitation noted particularly on alternate complete flexion and extension of the leg, and its persistently benign course. Its exact status in relation to the two types heretofore mentioned is somewhat hazy. Pemberton⁽²⁾ classifies villous arthritis as a rheumatoid condition of a special type described by Goldthwait as static in nature, frequently referable to flat foot. However, its frequent association in patients with other signs or forms of arthritis lends weight to the view that it is probably a mild form of the degenerative type of arthritis deformans. Its occurrence with Heberdeen's nodes in practically half of the cases strengthens this belief.

The process in the joints is characterized by villous outgrowths from the synovial membrane. The outgrowths between the articular surfaces impair function and produce the crepitation which may be often heard several feet away from the patient but which can be best appreciated by holding the hand over the knee joint during alternate flexion and extension of the leg. There is no destruction of the articular cartilage. The joint appears normal, or in a few cases slightly swollen due to an excess of fluid. While it might seem that this type of arthritis is of a mild nature the following case illustrates a borderline form which cannot be differentiated wholly from a typical severe hypertrophic arthritis. In fact there is at times no definite line of demarcation between the different types in so much as they are frequently found together in the same individual.

C. A. S.—age 32—Male — Seen Feb. 1926. Present Complaint — Painful swelling and stiffness of the joints of the hands, ankles, and knees. The condition began two years ago in the knee joints as a stiffness, especially when changing position, or on going up stairs. After a period of six months he developed swelling and pain in the finger and wrist joints followed by stiffness. During this latter period he had fever on numerous occasions and was in bed for several weeks at a time. The joint findings at the time of examination showed crepitation and limitation of motion in both knee joints with no pain on manipulation. The right wrist, the first

right carpometacarpal and left ankle joints were ankylosed. The left great toe was swollen and tender. Radiological findings in the knee joints were negative. The other joints involved were not definitely ankylosed. There was no evidence of demonstrable foci of infection.

As previously stated, chronic villous arthritis, not unlike the other types of arthritis is found most frequently in females. Thus of the 128 cases, in this series 118 occurred in women, while but ten were males. This disproportion does not exist to such an extreme degree in other forms of arthritis.

Due on the one hand to the insidiousness of the onset and its chronicity, and, on the other to the patients' ignorance of its presence because of its mild character or by being overshadowed by more predominant symptoms it has been difficult to define the exact beginning of the condition in a number of the cases. It can be stated, however, that the duration of the condition in the group, generally, has ranged from four months to ten years. The ages of cases at the time of examination were as follows:

19 years	1
20 to 30 years	20
30 to 40 years	31
40 to 50 years	30
50 to 60 years	23
60 and over	23

Thus it is seen that the greater number occurs between the third and sixth decades. Since the time of onset in the series has been rather indefinable it has not been possible to exactly correlate previous infections and other pathological states with the arthritic findings.

It is of interest, however, in going over the past histories to note that alone or combined, frequent tonsillitis occurred in 25 cases, influenza and pneumonia in 10 cases, chronic cholecystitis in 8 cases, pelvic infections in 7 cases, thyroid in 15 cases, abscess teeth in 16 cases, gastro-intestinal disturbances, chief among which was constipation in 32 cases, chronic sinusitis in 8 cases. Neuritis, rheumatism, sciatica, tuberculosis, diabetes, furunculosis and syphilis were also found in a scattered number of cases.

That the disease produces but little constitutional disturbance is shown by the fact that 31 patients were obese, 61 were well nourished, 19 fairly well nourished, and

only 17 were poorly nourished. Only 20 cases showed evidence of any anemia. The findings are in marked contrast to the other types of arthritis in which the majority show an undernutrition and secondary anemia. This being especially true in the cases of long duration.

The etiology of arthritis has been clarified through the research of focal infection in its relationship to pathological condition. There are, however, in addition, numerous other conditions that play an important role. Flat foot, supposed to be an important factor in the production of villous arthritis was found in only 6 cases. Other findings as to the possible foci of infection were septic tonsils 44 cases, oral sepsis 17 cases, chronic cholecystitis 10 cases, pelvic infection 5 cases, and pyelitis 2 cases. Chronic constipation alone was present in 22 cases. The remaining 22 showed no appreciable evidence of an etiological factor.

Presenting symptoms: Pain, most often described as a dull ache and stiffness in the knee is especially common. The pain is rarely acute. Stiffness, although in the majority of cases, being of slight degree, varies from one of no limitation of movement to actual inability to flex the knee joint. This limitation of motion is apparently more the result of its causing pain than to actual ankylosis. Aching of a general type, that is, migratory pains, is of frequent occurrence. Aching of the legs is also a prominent feature. Headache with no particular location and, less frequently, backache is almost constant. This headache is apparently of an arthritic type. The above complaints were present in 69 cases. Stiffness in the knees, especially when climbing stairs or when changing position, as from the sitting to the erect position, is common. Oddly enough the crepitation present upon moving the knee joint was noted by comparatively few. A large number were surprised on being informed that such a condition existed. Among general symptoms gastro-intestinal disturbances are prevalent. Anorexia, flatulency, nausea with occasional vomiting, constipation and general abdominal distress comprise this syndrome. Nervousness, malaise and asthenia are frequently noted.

Crepitation in one knee joint was found in 10 instances. While it might appear that trauma could easily be a factor in these 10 cases a history of such could not

be obtained. Crepitation in both knee joints was found in 49 cases. Crepitation associated with Heberdeen's nodes was present in 60 cases. Crepitation in the knee joints was associated with involvement of other joints, that is, shoulder, hip, elbow and ankle joints in 9 cases. Aside from the clinical aspect, the greatest departure from the severe types of arthritis is denoted by the radiological findings. The findings in cases of villous arthritis are uniformly negative. This is well illustrated in the case of Mrs. G. S. M., the most marked seen in the series of knee joint involvement alone. Considerable pain, limitation of motion, and swelling of both knee joints was present over a period of two years. Crepitation was unusually marked. The X-ray findings were entirely negative. The reason for this is obvious when the pathological process is taken into consideration.

Treatment may be divided into (A) General, and (B) Local. Among the general measures the eradication of foci of infection is of foremost importance. It is not to be implied, however, that there should be a promiscuous removal of tonsils and teeth but that a careful examination should disclose a definite nidus before advising their removal. It is of utmost importance that other less obvious foci such as may be found in the sinuses, genito-urinary, and gastro-intestinal systems should be thoroughly investigated. Due to the lack of undernutrition there was no attempt made to arrange a dietary excepting a full diet in the few undernourished cases and low carbohydrate diet in the obese. Hygienic measures such as pleasant environment, plenty of fresh air and proper elimination were also prescribed. Medicinal agents were used symptomatically.

The local treatment consisted of baking and sweating the joints on alternate days and massage of the muscles both above and below the joints.

Fifty-six cases showed improvement while the results in 39 were questionable and unimproved. In 33 cases there was insufficient time for complete observation. The improvement consisted of a disappearance of the aching sensations, stiffness and general symptoms, especially gastro-intestinal disturbances. In only two cases was there an actual disappearance of the crepitation in the joints.

CONCLUSIONS

1. Chronic villous arthritis is a comparatively frequent condition.
2. It occurs predominantly in the female sex and has a marked predilection for the knee joints.
3. Despite its apparently mild character there is sufficient evidence to show that chronic villous arthritis is not infrequently associated with both constitutional and local disturbances of various degrees.
4. That there is a definite relationship to other types of arthritis, particularly the hypertrophic type, seems likely because of its frequent association with Heberdeen's nodes.
5. Its association with demonstrable foci of infection in numerous instances is suggestive.
6. Flat foot, a supposedly almost constant factor, was present in only 6 cases.
7. Notwithstanding the favorable course of a considerable number of cases under treatment it is noteworthy that in only two cases was there an actual retrogression of the villous process.

REFERENCE

1. Nichols & Richardson—*Journal of Medical Research*, 1909, XVI.
2. Pemberton—Nelson's "Loose Leaf Medicine."

SENSITIZATION

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THE JOURNAL

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EDITORIAL

THE TALIHINA SANITARIUM

One of Oklahoma's institutions of which the people may be unusually proud is the State Hospital for the treatment of tuberculosis at Talihina. It was recently the writer's privilege and pleasure to spend a few hours at the hospital where he was accorded the opportunity to see everything to be seen in the limited time permitted. The location has many features unusual to Oklahoma and Oklahomans—miles of high-reared, green-clad mountains sur-

round the location, which is wisely selected for its commanding height, fine southern and eastern exposures and a protecting rampart of mountains on the North which breaks the fury of a winter's storm. Though the buildings are all comparatively new, upward evolution and advancement is discernible in the modernity and stability of those recently constructed. The water supply comes by gravity through pipes to a reservoir from fine springs in the mountains; the abundant and essential milk supply, and it is more than sufficient for the needs, is supplied by a fine herd of cattle, some of them prize winners, which was secured from time to time through the energy and efforts of the Superintendent, Dr. R. M. Shepard, in such manner as to prove a great saving to the State. The grounds are being gradually beautified, with various plants which add to the natural beauty of the place. Every bed on the place is occupied and there is a large waiting list. Many of the patients formerly occupants of high-class private institutions for long periods of time, are inmates of the Hospital, as happy and contented as could be expected. A fairly careful, though hurried inspection of the case records indicates the actual benefits of the system of treatment used. Many cases, hopeless on the outside, have responded to careful treatment with remarkably good results. Dr. Shepard is energetic, intelligent and enthusiastic, the attributes called for in the successful organization and building up of such an institution. He, like all other managers of our State institutions, is limited and restricted by insufficient appropriations, but despite that is making a great record for himself and the State. Many new buildings are now urgently needed. His staff should be extended—he now having one assistant physician and needs much more high-class technical aid than he has. Every patient has access to abundant fresh air through the medium of sleeping porches. Many of them have views across miles of beautiful mountainous country, in fact a more beautiful location in the State does not exist. The food is excellent, well and attractively served and the buildings, kitchens and service rooms are as clean as the most exacting would demand. The visit was a real pleasure.

Editorial Notes—Personal and General

DR. FRANK R. VIEREGG, Oklahoma City, has moved to Clinton.

DR. and MRS. H. C. HARRIS, and family, Grandfield, returned from a seven weeks' vacation spent in California.

DR. E. B. THOMASSON, Duncan, is taking several weeks postgraduate surgery work at Chicago and Rochester, Minn.

DR. and MRS. A. S. PHELPS, Oklahoma City, and daughter, returned this month from a two months' trip to California.

DR. E. BRENT MITCHELL, Lawton, is making a trip to Canada, and attending the Rock Island Surgeons convention at Minneapolis.

DR. W. P. SPENCE, Sayre, has returned from a three weeks' course at the Mayo Clinic, and attended at a family reunion at Peoria, Ills.

DR. HUGH SCOTT, Muskogee Medical Officer in Charge, U. S. Veteran's Hospital, is attending the American Legion Convention in Philadelphia.

DR. LE ROY LONG, Oklahoma City, Dean of the University Medical Department, has returned after spending July, August and September in European Clinics.

DR. ELIAS MARGO, of the McBride Reconstruction Hospital, Oklahoma City, is in New York at the Hospital for Ruptured and Crippled, taking postgraduate work.

DR. and MRS. FRANK HARRISON McGREGOR, Mangum, announce an addition to the valiant clan McGregor, Robert Aubrey by name, born September 16th, 1926.

McINTOSH COUNTY MEDICAL SOCIETY met September 21st at Texanna; the program: "Infant Feeding," Dr. C. V. Rice, Muskogee; "Typhoid Fever," with a clinic and report of cases.

WESLEY HOSPITAL, Oklahoma City, is reported to have planned an addition to cost about \$150,000, to be built within the next few months, increasing the size of the accommodations by 50 beds.

TULSA COUNTY MEDICAL SOCIETY on September 24th, had charge of an open meeting of the Tulsa Chamber of Commerce at the Tulsa Hotel. Dr. George Osborn, president-elect of the Society, presented a talk on "What Good are the Ethics of the Medical Profession to the Public."

OKLAHOMA STATE BOARD OF MEDICAL EXAMINERS, last month refused to permit Ira H. Johnson, Joplin, Mo., to take the state medical examinations because Johnson received his diploma from the Kansas City Medical College in 1921, the college having been involved in the "diploma mill" scandal in that year.

DR. RURIC N. SMITH, Tulsa, is in Philadelphia, attending Dr. Chevalier Jackson's Clinic.

DR. and MRS. S. DePORTE, Ardmore, returned home from a trip to New York, where Dr. DePorte took postgraduate work at the Polyclinic Hospital.

DR. E. S. LAIN, Oklahoma City, attended the Lake Mohonk (N. Y.) Conference where a symposium on the "Control of Cancer" was held September 20-24.

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EYE, EAR, NOSE and THROAT

Edited by Jas. C. Braswell, M. D.
726 Mayo Bldg., Tulsa

Discussion of Penetrating Injuries of the Eye:

Clegg, J. G., Pooley, G. H., Goulden, C., Whiting, M. H., and others. *Proc. Roy. Soc. Med., Lond., 1926 xix, Sect. Ophth., 2.*

Clegg states that in injuries of the eye the important determinations to be made first are whether penetration has occurred and whether there is a foreign body in the eyeball or adjacent tissues.

The prolapsed iris may be replaced or excised. If the corneal wound is large, it may be sutured with horsehair or the finest silkworm gut. If the lens is injured, it may be extracted through the corneal wound if the latter is large or through a surgical wound. If the vitreous has prolapsed, it should be snipped off. In scleral or cornescleral injuries, the wound should be cleaned up, and a week at least should be allowed before the eye is condemned. Foreign bodies in the globe should be localized and extracted when possible. For magnet extraction, Clegg favors the anterior route.

Pooley believes that conservation methods are justified in the treatment of penetrating injuries of the eyeball. The wounds should be cleaned, and contused or macerated tissues excised when possible. Scleral wounds should be sutured directly and corneal wounds indirectly. Prolapsed corneal tissue or vitreous should be cut off. Pooley has never known sympathetic ophthalmia to follow a penetrating wound of the sclera. In all of the cases he has seen there has been an injury of the iris. However severe the injury, the eye should never be removed during the first fortnight. The sclera should be sutured with fine catgut.

Goulden believes it is safest and best to free the conjunctive around a scleral wound, draw it over, and suture it with mattress sutures. In cases of magnetic foreign bodies in the anterior chamber, the incision should be made immediately opposite the foreign body instead of at the limbus as when this is done the magnet can reach the foreign body more easily.

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Cysts in the Floor of the Mouth., Stein, O. J., *Ann Otol., Rhinol. and Laryngol., 1925, xxxiv, 1028.*

Ranula has been proved a degenerative cyst of the sublingual gland. It differs from the hygroma in that it is situated beneath the mucous

membrane while the hygroma lies within the membrane. It develops beneath the tongue, grows fairly rapidly, and contains glairy mucus. The treatment should consist in careful dissection of as much of a cyst as possible and the removal of the rest with the snare. The approach is either through the mouth or the neck preferably the latter.

Cysts of the mucous glands responds more readily than ranula to incision or resection.

Dermoid cysts develop from misplaced fetal rests or inclusions. They are of two types: those attached to the symphysis of the lower jaw and those attached to the hyoid bone. They begin to form shortly after birth and are present in the floor of the mouth or in the neck. The only method of treatment is total extirpation. This may be accomplished through the mouth under local anaesthesia.

Thyroglossal cysts develop in the remains of the thyroglossal duct. They must be differentiated from sublingual dermoids, abscesses of the suprahyoid lymph gland, a suppurating suprahyoid bursa, and accessory thyroid substance. They must be dissected out.

Branchial fistulae are due to embryological defects of development in the neck resulting in persistent sinuses. They are formed along the outer side of the neck and in the tonsil region.

Multilocular cysts attached to the jaw arise from the mucous membrane of the jaw, the epithelial cord of enamel, or epithelial membrane of enamel organ. Echinococcus cysts are usually found in the tongue.

The Cholesteatoma of the Middle Ear—Its Etiology, Pathogenesis, Diagnosis, and Therapy., Nager, F. R.; *Ann. Otol., Rhinol. and Laryngol.*, 1925, xxxiv, 1249.

Cholesteatoma is the result of a chronic middle ear suppuration characterized by an epitympanic and marginal perforation, a continuous foetid discharge, and epidermization of the mucous membrane of the middle ear. It is not congenital. It occurs in about one-third of the cases of chronic middle ear suppuration. Its mortality is between $\frac{1}{4}$ and $\frac{3}{4}$ per cent. The theory of Habermann and Bezold that the epidermis grows from the external meatus into the middle ear is applicable to most cases. Cholesteatoma cannot arise with a central perforation but may develop through a fistula in the pars flaccida.

In the cases reviewed by the author the middle ear suppuration occurred in 33 per cent in the course of an exanthematous infection. Half of the cases did not present any distinct casual affection, but in many the relationship between tuberculosis and cholesteatoma was proved.

The formation of a cholesteatoma, though a healing process, is dangerous because of the accumulation and decomposition of epidermic scales. As a result of the pressure of the growth, the bone wastes away and the adjacent structures may be opened and invaded by the associated infection.

The diagnosis is made by otoscopy with the use of a probe and magnifying glass and by intratympanic syringing. Small cholesteatoma cavities with good conditions for discharge may

be treated conservatively. Cleansing of the attic with a tube should be tried. If this fails, resort should be had to radical operation.

The indications for operation are: (1) inflammation of the cholesteatoma with serious symptoms, (2) the failure of conservative treatment after from four to six weeks, (3) constantly recurring suppuration, and (4) insufficient cooperation on the part of the patient. Contra-indications to operation are chronic middle ear suppuration with a central perforation and without cholesteatoma. The prognosis depends upon the time the diagnosis is made.

Bilateral Glioma of the Retina., Rogers, R. M., *Am. J. Ophth.*, 1926, 3 s. ix, 105.

The author reports a case of bilateral glioma of the retina in an infant 12 months old.

Glioma of the retina develops in the neuro-epithelial layer and is likely to undergo calcereous degeneration. It is never pigmented. Small round cells lie usually in perivascular groups. The inner border of typical rosettes is lined by a thin membrane which has been interpreted as a reproduction of the membrana limitans externa while the cells of the rosettes are believed to be derivations of the rods and cones. Cells are usually arranged in rows and distinct circles indicating the tendency which produces rosettes.

The author stresses the fact that serial sections should be carefully studied to determine if the tumor has passed into or beyond the sclera. In case of such extension the contents of the orbit should be removed immediately.

Adenoidism and Abnormalities in the Conformation of the Nasal Septum and the Upper Jaw. Pasquale Russi, *Supplement to Arch. ital. d. otol., Rinol. e. laringol.* 2:1-79, 1925.

In subjects with adenoids, abnormalities in the conformation of the bones of the face are: (1) Malformations (deflections, spurs or spines of the nasal septum, and, in the upper jaw, an ogival, often asymmetric, palate) nearly always due to general causes that affect the regular development of the fetus (syphilis, rickets). Malformations of this class range in gravity all the way from insignificant manifestations to the various kinds of harelip and cleft palate. (2) Malformations due to disturbances manifested in extra-uterine life and resulting either from general causes (lymphatism, scrofulosis) or from local causes, among which adenoid growths play the principal part. Malformations of this class may affect only the septum and the upper jaw but not necessarily both. While ogival palate may not be invoked as the sole cause of deflections of the septum, it is without doubt the principal factor. Deflections of the septum, ogival palate and abnormal arrangement of the teeth (dental ataxia) were found associated in 9 per cent of the cases studied. Ogival palate was associated with deviations of the septum in 43 per cent of the cases. Adenoidectomy restores completely nasal respiration impaired merely by the hyperplastic pharyngeal tonsil. But in subjects who present deflections of the septum or marked thickening or hypertrophy of the turbinates the same benefit is not produced. Sometimes, several

months after adenoidectomy, beneficial modifications in the ogival palatine arch in the dental arches may be observed.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M. D.
717 North Robinson St., Oklahoma City

Fractures of the Head of the Femur: Frederick Christopher, M.D., Archives of Surgery, May, 1926, p. 1049.

Fractures of the head of the femur are said to be very rare, only fourteen having been recorded. The author adds the report of another case, and abstracts those previously reported in the literature.

The fracture usually results from extreme violence and is almost always associated with a posterior dislocation. This complication makes diagnosis extremely difficult so that X-ray examination or actual inspection of the site of injury is necessary for positive diagnosis. In most of the cases, treatment which consists of reduction of the dislocation followed by early mobilization, resulted in only fair function recovery. In some cases, operative removal of the fragments is necessary.

The Treatment of old Congenital Dislocation of the Hip, with special reference to the use of skeletal traction before reduction by operation. LeRoy C. Abbott, M.D. Archives of Surgery, May, 1926, p. 983.

The author reports six cases of dislocation of the hip in children between ten and sixteen years of age. Of these only four were congenital in type. The other two resulted from contractures following anterior poliomyelitis.

Stress is laid on the difficulty in reducing such dislocations because of contractures of the soft parts and the changes in the acetabulum. The first of these difficulties he overcomes by skeletal traction, the latter by open operation. After the hip has been exposed, the appearance of the acetabulum and head of the femur determine the exact procedure to be followed.

For some cases, Abbott advises arthrodesis, for others he attempts to gain a movable hip. He leaves one with the impression that reduction followed by ankylosis gives the better functional result.

Removal of Hammertoe by Juxta-Capitular Resection of the Basal Phalanx: Karl Bragard, (Munich). Ztschr. f. orthop. Chir., XLVII, 2, 283, February 15, 1926.

An incision two centimeters long is made on the dorsal surface of the basal phalanx from behind the head of the phalanx upward. From three-eighths to one-half inch of the distal end of the shaft is resected subperiosteally — the planes running slightly from dorsal and proximal to plantar and distal. If necessary a wedge-shaped piece of the shaft may be resected; this

allows easy extension of the middle phalanx. The hyper-extended proximal phalangeal joint can be corrected by incision of the dorsal and lateral portion of the capsule of the metacarpal phalangeal joints. A splint with traction on the end of the toes is applied. After ten to twelve days, the sutures are removed. Three or four weeks after the osteotomy has healed, the patient wears a Lange arch support with anterior convexity to raise the anterior arch.

Wedge-Shaped Vertebrae and Paralysis: H. Salis, Basel, Ztschr. f. orthop. Chir. XLVII, 2, 275, February 15, 1926.

The author reports a case of paralysis of the right hand with advanced muscular torticollis of the right side and congenital scoliosis due to wedge formation of the seventh cervical and fourth dorsal vertebrae. The literature on the subject is reviewed extensively. He believes that cervical scoliosis was responsible for the paralysis of the right arm as well as the existing Horner's syndrome by virtue of the pressure upon the cervical nerve roots and the sympathetic nerve. It was treated by redressment of the torticollis followed by a collar.

TUBERCULOSIS

Edited by L. J. Moorman, M.D.
912 Medical Arts Bldg., Oklahoma City

The Modern Sanatorium Treatment of Tuberculosis as applied in a large Government Institution. Earl H. Bruns, Lt. Col., Medical Corps, U. S. A. Amer. Rev. of T. B. March, 1926.

The author refers to the fact that the United States government is now caring for thousands of cases of tuberculosis from among the World War veterans, who are receiving the best treatment known to modern medicine. However the results are disappointing because, in spite of our progress in the management of this disease, the outcome still depends largely upon the character and co-operation of the patient, and ideal patients, as always, are few and far between.

Reference is made to the frequent reports of so called specifics for tuberculosis which have their day and pass into oblivion, leaving us always facing the necessity of clinging to the conservative sanatorium methods.

Both home and sanatorium management are discussed and their relative merits set forth with emphasis on the fact that the sanatorium is the school of the tuberculosis patient and treatment should at least be started in this way.

"Following a certain period in a sanatorium, home treatment may be indicated but if the patient is initiated into his treatment at home, it will require a greater effort on the part of both the patient and physician to carry it to success. The treatment of tuberculosis is an expensive proposition; it requires most careful nursing, attention to details, and often a change of climate. To copy with any degree of success sanatorium treatment at home, a private nurse and frequent visits of the doctor are required. In a sanatorium one nurse can take care of a number of pa-

tients partly because every one is going through the same routine. At home the well members of the family lead a different life from that of the patient; family cares, worries, and annoyances are close at hand; it is more difficult to 'chase the cure'; careful medical supervision is not to be had and details of treatment, each one perhaps trivial in itself, but important when taken as a whole, cannot always be carried out. The modern method of treating tuberculosis, which will be described later, and which demands repeated X-ray examinations, laboratory tests, more or less complicated therapeutic measures, and not infrequently surgical procedures, can best be employed in a hospital. It must not be ignored that for certain patients sanatorium life is depressing. The atmosphere of sickness, especially after a time, causes them to grow despondent and dissatisfied. They yearn for the home environment and crave home cooking. They have had their sanatorium training, and if their disease has become quiescent, it will be more agreeable and easier for them to take their treatment at home. If home conditions are satisfactory and they have demonstrated ability and willingness to follow treatment, there comes a time, when, even though they are not entirely well, it may be the best policy to have them complete their cure at home."

The advantages of taking the cure in a small sanatorium with unified medical direction, are discussed and reference made to the fact that in Fitzsimmons General Hospital they have sought to overcome the disadvantages of a large institution by conceiving and administering the institution as a sanatorium center made up of a number of units, each one more or less complete in itself. Carrying out the same idea of continuity and individualization in treatment, an effort is made to keep the patients under the same doctor during their entire stay in the hospital. The doctor comes to know the patient intimately. He is not only fully acquainted with their physical condition but learns their mental make up, their peculiarities, their problems in life, and as a result is better able to treat and influence them.

The fundamental methods employed in the treatment of tuberculosis are discussed in such an illuminating way it is unfortunate that the article cannot be reproduced in full.

UROLOGY and SYPHILOLOGY

Edited by Rex Bolend, B.S., M.D.
1010 Medical Arts Building, Oklahoma City.

Urinary Proteins. Welker, Thomas and Hektoen, report globular protein crystals, characteristic in form recovered from urine in a series of ten cases of nephritis. There appears to be no special clinical or diagnostic importance to this work.

Latent Syphilis and Pregnancy—"Bertin discusses the reactivation of latent syphilitic infection under the influence of a pregnancy. The latent syphilis is graver for the fetus than for the mother. Under successive abortions the infection may become attenuated. The Wassermann test, previously negative, may become positive during pregnancy, and again negative after child-

birth. Localization of the spirochetes in the pelvic organs during pregnancy may induce a relative immunity. Thus may be explained the gradual attenuation of syphilitic infection, evident in repeated pregnancies. After a series of abortions, the women frequently give birth of fully developed infants with only slight traces of congenital syphilis. This may occur even if the women are not treated."

Most of us have had to deal with cases of unquestionable congenital Lues, in one child, while another showed no signs, and the mother with a negative Wassermann. This condition is easy to explain, but the question or management of the treatment is still debatable.

Microscopic Blood in the Urine—Many laboratories do not report blood in the urine, but red cells and white cells present. We feel that this is a distinct step forward in accuracy of diagnosis, but with this we should go a little further and have the number of cells per field. Also red cells mean more than white. If white cells are reported, it should be noted whether or not they are clumped.

The next thing of importance is to locate from where they are coming. Ordinarily we do not pay much attention, even to a little microscopic blood from meatus in male, but three or four red cells per high power field, should be thoroughly investigated.

Gonorrhea vs. Gonorrhoea—Just now there is developing what appears to be a wide gap, or difference in opinion, on the viability of the gonococcus. Perhaps this is only a superficial observation, and when all factors of both sides are understood they will correlate very well, but to the busy practitioner when certain Gynecologists are claiming that the Gonococcus becomes attenuated and the organism not capable of reproducing itself, when confined in a tube for as long as three months—while some of the more technical laboratories are developing a culture media, which they report growth of the Gonococcus in a large percentage of cases, after years of inactivity, in which there were no symptoms, and many of these cases in married couples, with no appearance of Gonorrhoea—as before stated in looks like someone is wrong.

So it behooves us to keep a "Cool Head" and be conservative without being retrogressive in all Gonorrheal conditions.

Clippings from the Urologic and Cutaneous Review.

Infiltration and thickening of the rectum, with contraction of its lumen, especially if one may clear his mind of suspicion of malignancy, point to the wisdom of instituting specific treatment.

The possibility of establishing an arsenic-fast condition if small doses of arsphenamine are employed, is sufficient reason for giving maximum doses just as soon as tolerance for the drug is determined.

It is well to gratify your curiosity by having Wassermanns made at stated intervals during the treatment of syphilis, but do not suspend active measures during the early months of the

infection merely because you get a succession of negatives.

It is doubtful if any specific treatment exerts a direct spirocheticidal effect. In all probability the beneficial influence secured is brought about through augmentation of the natural defensive forces of the tissues. This is the thought that should be kept in mind while treating a syphilitic.

In old syphilis, especially if the cerebrospinal system is involved, do not aim at a cure, but rather hope for amelioration or holding the process at a standstill. A physician who holds a lesion of the cerebrospinal system in check over a considerable period has accomplished something well worth while.

Do not lose sight of the fact that there is such a thing as syphilitic nephritis. It may be found in both the secondary and tertiary stages. Treatment should be carefully given and every effort made to determine if syphilis is actually the underlying cause. The result of treatment will aid most in reaching a conclusion as to cause.

Pyelitis in Pregnancy—Butler, P. E., — The American Journal of Roentgenology and Radium Therapy.

Urine analysis is not strictly dependable for the determination of disease in the urinary tract. Study of the urinary tract by the injection method is far more reliable, as it not only shows the presence of pathology, but often shows the extent of the lesions. For two years the author has routinely examined cases of pyelitis in pregnant women by this method.

The infecting organism is usually the colon bacillus, but occasionally staphylococci and streptococci have been found. The condition occurs more frequently in multiparas. In about 80 per cent of the cases which showed mono-lateral involvement, the right side was affected. Primary pyelitis occurs in some cases, but it is the general belief that there has been a previous renal or ureteral infection and that the abnormal conditions have lit up the old pathological process.

The symptoms depend upon obstruction of ureter or severity of infection. There may be no symptoms when the ureters are not blocked by pus, mucus, fetal pressure or edema in the ureter. Plugging of the ureter, followed by absorption of toxins may give the typical symptoms of severe sepsis. Pain may be absent, especially when there is no obstruction, in the ureter. There is usually frequent urination which may or may not be painful. The pain is usually located in the back. The symptoms generally clear up after delivery.

The diagnosis is first made by careful and frequent examination of the urine, plus the history. Pus and colon bacilli are both found as a rule. When the foregoing picture is presented injection study is indicated. The condition may be confused with appendicitis, gall-bladder, pathology or pelvic inflammation, but urine study and pyelography serve to differentiate.

Treatment includes plenty of water, rest and renal lavage. Catheterization of the ureters generally clears up the condition. Sterile water or some simple antiseptic is used for the lavage. The catheters should be left in place for about an hour to provide ample drainage.

There is no special difficulty in injecting into the urinary tract of pregnant women. The ureteral orifices will usually be found with a little patience. It is safe to inject both sides at one sitting when sodium iodide solution is used. The catheters should be left in place for a few minutes to permit complete drainage of the solution.

DOCTORS' WIVES

MRS. ERNEST SULLIVAN, Oklahoma City.

Please don't think that I'm a poet
Just a rhymster—nothing more—
When my wild-goose thoughts go soaring
I just calmly let them soar.
So one day I got to wondering
What the old-time Doctor'd say
Could he know the means and methods
That the Doctors use today.
He was first to greet a fellow
When he drew his infant breath
And the last to sit beside him
When he closed his eyes in death.
From the cradle to the graveyard
One old Doctor's care they'd be
He'd pull a tooth or cut a leg off
And so tiny was his fee.
Which reminds me of a story
That I heard not long ago,
Mrs. Smith who broke her leg
Had quickly phoned for Doctor Roe.
"Which leg is it, tell me Madam
I'm a specialist, you see."
"O, my right leg, please do hurry
I am suffering so," said she.
"I am very sorry, Madam,
Please just phone for Doctor Neff.
He knows all about the right leg,
But my specialty's the left."
I was born a Doctor's daughter
And became a Doctor's wife
So I thing I know a little
Of the trials of their life.
But a Doctor's life's worth living
If they try to make it so
For the smiles outrank the sadness
And there's more of joy than woe.
Now take the modern Doctor
With all his fret and care
And think about the Doctor's wife
And the burdens she must bear.
She must be politic and sweet
To patients far and near,
Hear the history of their woes
And pretend she's glad to hear.
And when he's out of office
And can't be found at home,
She must say, "O, yes, I'll find him
And quickly have him come."
She may know he's on the golf course
But the truth she dare not tell
For fear she'll get this answer
"O, he is? Well, very well
I'll just call another Doctor
One, on whom I can rely
For accidents will happen
And he should be standing by."

Such a weary cross the phone is
 All it's numbers we must keep,
 And it's sure to ring the loudest
 Just when baby's gone to sleep.
 "O, you say the Doctor's out."
 Some sweet voice will cry to you
 Well, I'm sorry, but no matter
 You can tell me what to do."
 'Course we're glad to help a sister
 But we know 'twill never do
 To prescribe a dose of oil
 Or a tiny pill or two.
 For they're sure to tell our husbands
 Then a reckoning there will be
 He will say, with eyes fixed on you,
 "Where did you get your degree?"
 Now, dear sisters, here's a question
 That I want to put to you
 Why not get our heads together
 Like our Doctor husbands do.

You'll admit of puzzling questions
 We most surely get our share
 And of all our husbands' burdens
 Our own half, we want to bear.
 We've been told there's strength in numbers
 And we know 'twas wisely said
 So let's follow a great leader
 Of the South; dear Mrs. Red.
 She is was who caught the vision
 Of how helpful we could be
 Banded Doctor's wives together
 Organized the Auxiliary.
 Every year the ranks are filling
 We must joint the movement, too,
 Oklahoma lives her motto
 In all things. 'Tis this, "We do."
 So here's hoping every County
 Fully organized will be
 When the A. M. A. shall meet next
 Up in Washington, D. C.

The Selection of a Physician—

The selection of a physician for an operation or as a family doctor, is usually made with some care. We consult those who have employed physicians and are governed largely by their recommendations. But having selected a physician, we follow his advice. We trust him even to the extent of submitting to operations that may have serious results.

The point is, we trust THE MAN WHO KNOWS.

Now, doctor, the institutions and the firms advertised in this Journal were carefully investigated before their announcements were printed here. The medical products were submitted to laboratory tests, before they were accepted by the Council on Pharmacy and Chemistry.

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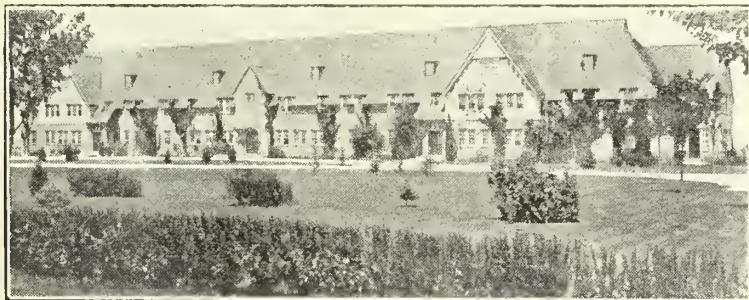
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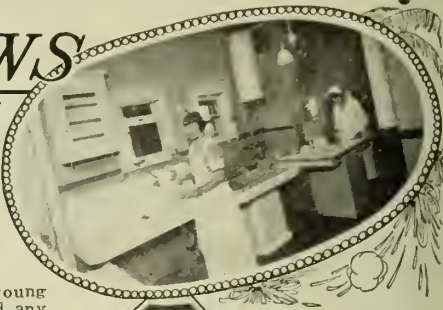
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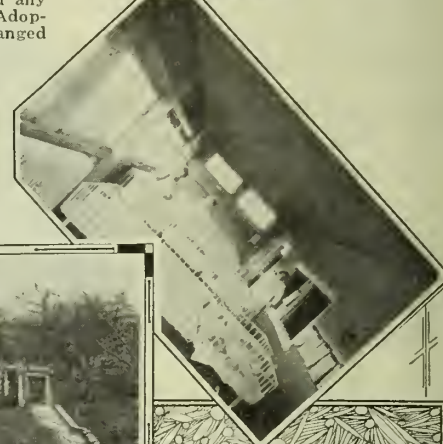
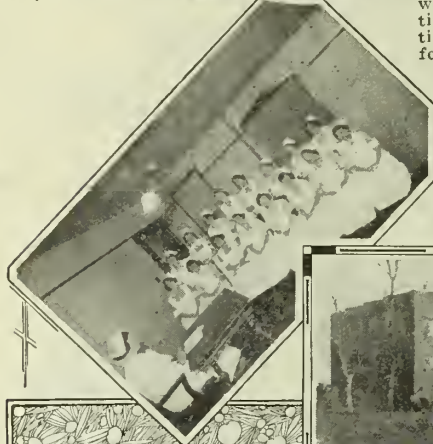
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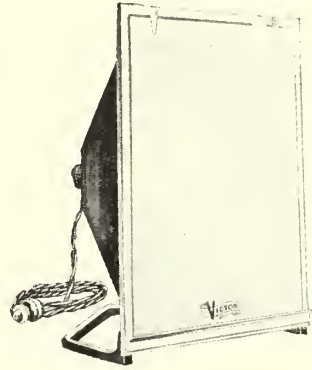
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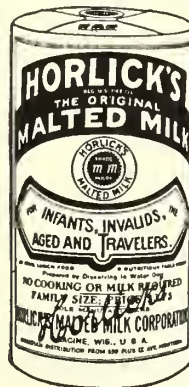
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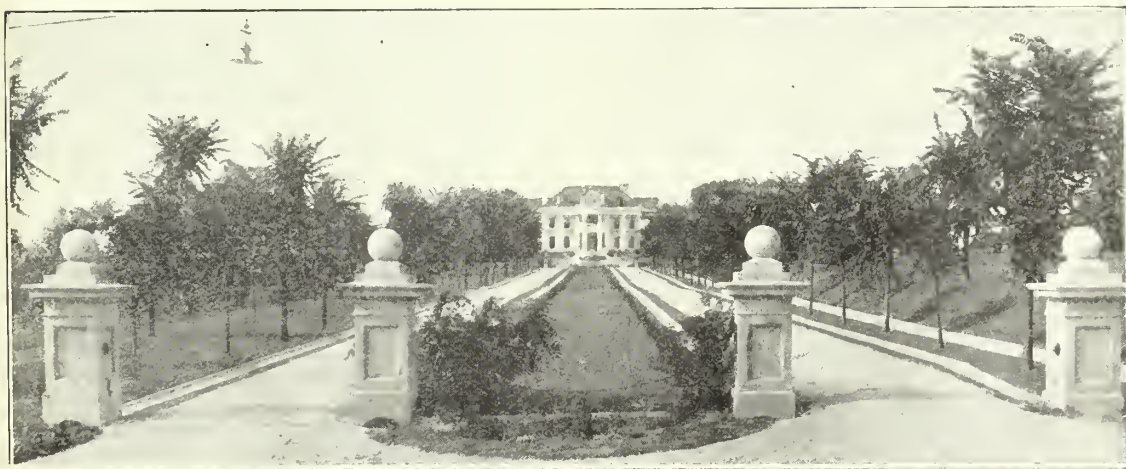
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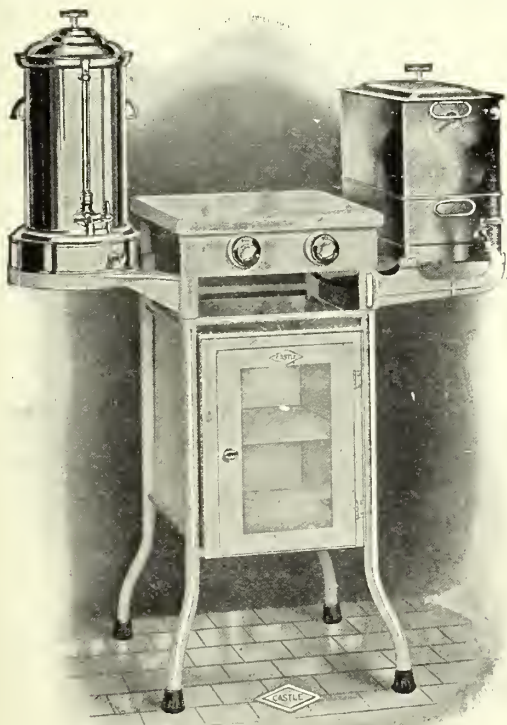
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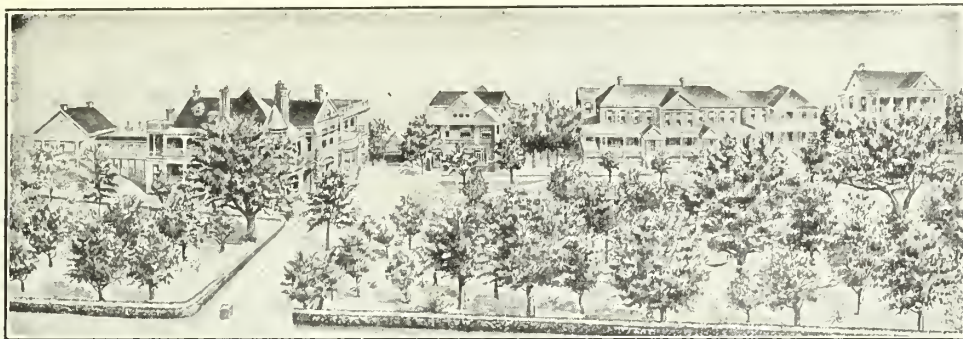
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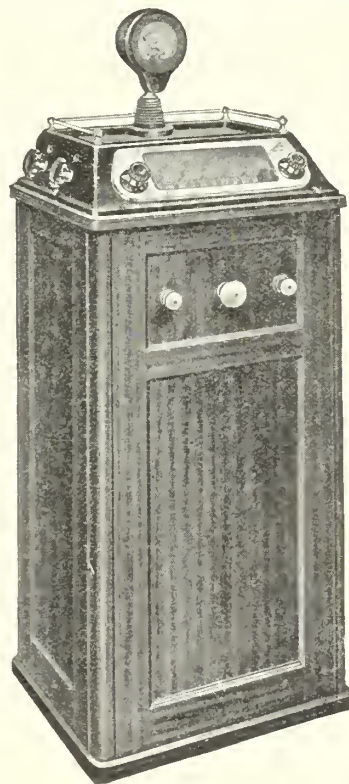
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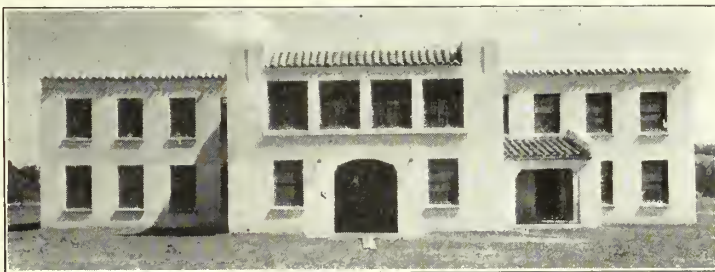
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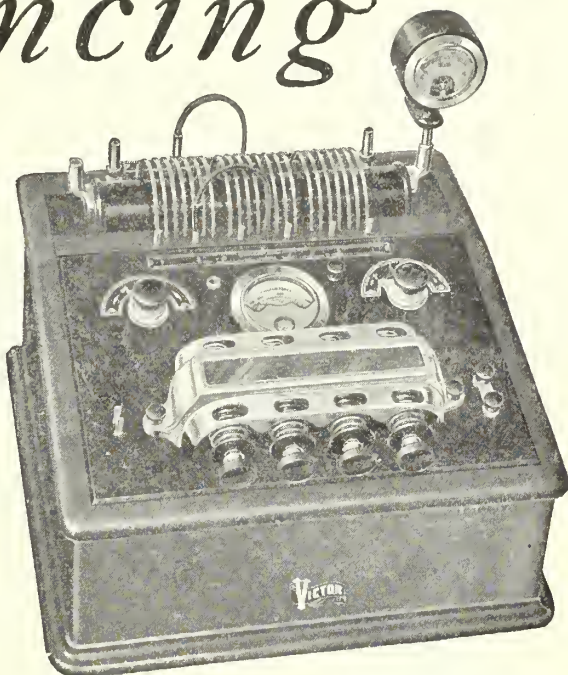
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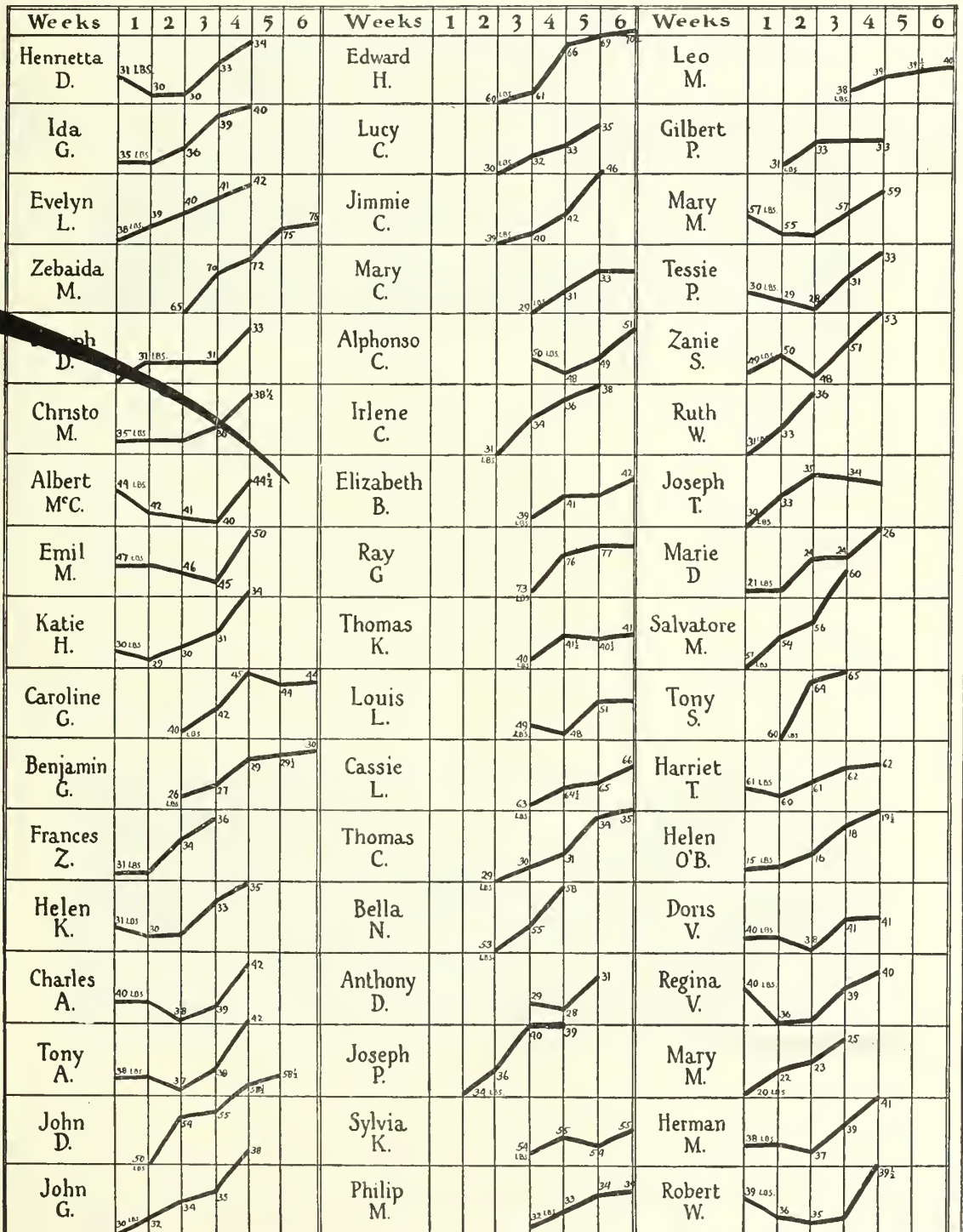
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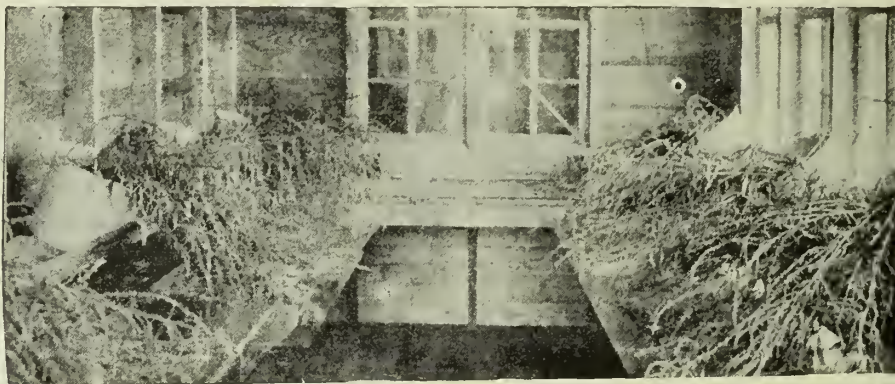


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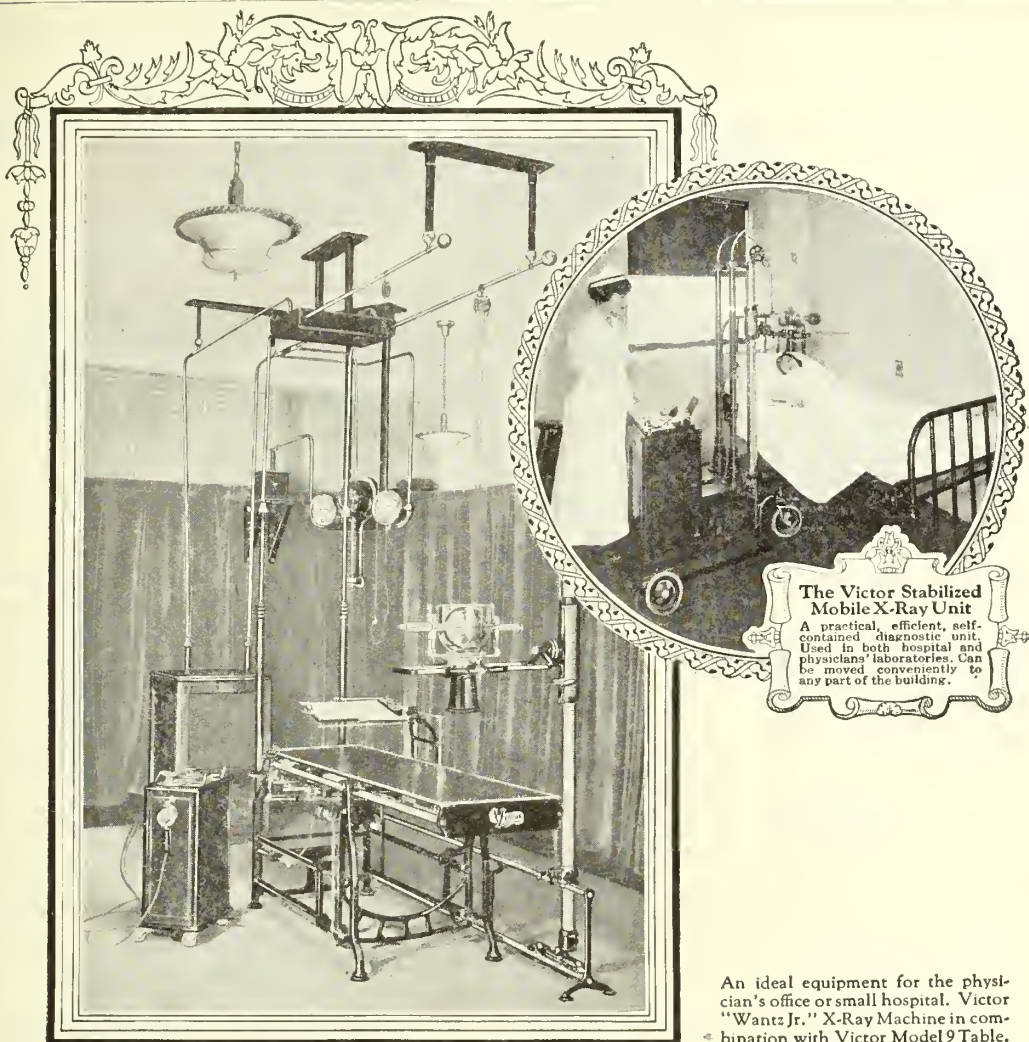
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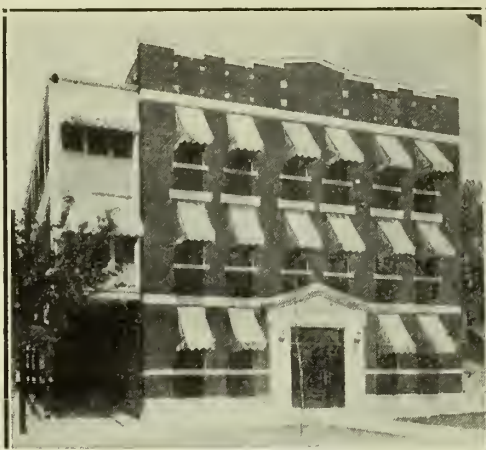
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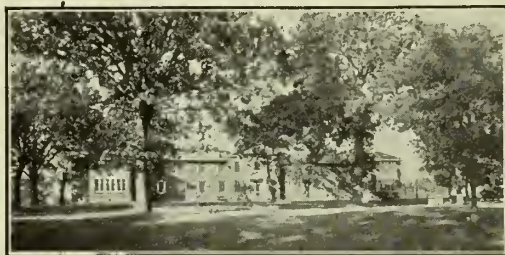
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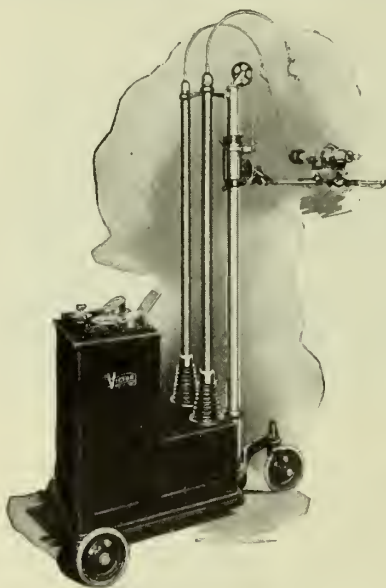
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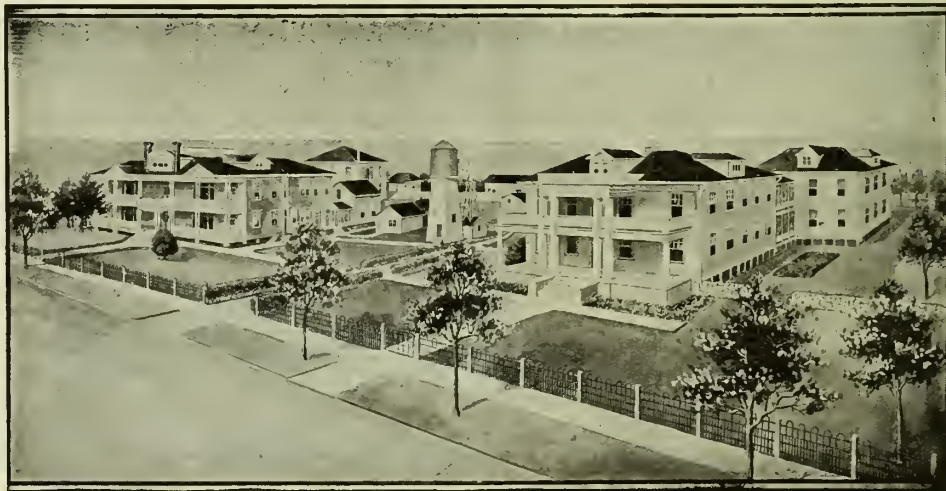
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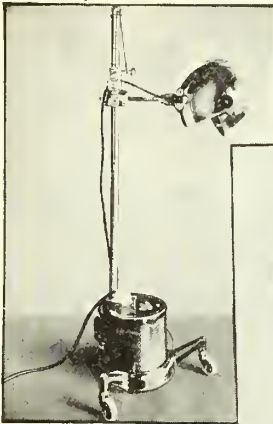
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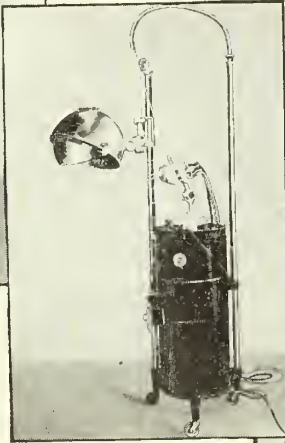
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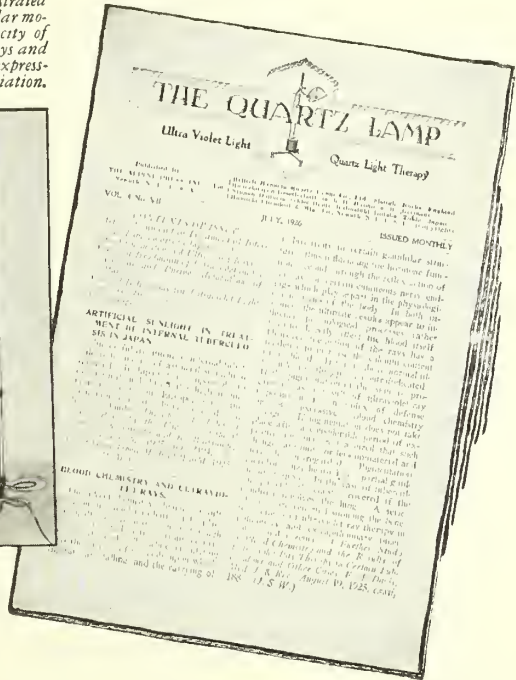
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SYMPOSIUM:

CONSTITUTIONAL DISEASES VS DENTAL DISEASES

Read before the Section on General Medicine, Neurology, Pathology and Bacteriology, Annual Meeting, Oklahoma State Medical Association, Oklahoma City, June 22, 23, 24, 1926.

SYSTEMIC DISEASES OF FOCAL ORIGIN WITH ESPECIAL REFERENCE TO DENTAL CAUSES

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OKLAHOMA CITY

It has long been an aphorism of mine that if a man wishes to approach and go through his old age gracefully, he must rid himself of the handicap of infection—that he may be able to carry the burden during the years of his stronger manhood is true, but as his declining years approach and his natural vigor begins to wane, the infection will weight him down and he will be subject to the many ills that attend old age, most of which could have been avoided by eradication of focal infections, for it is undoubtedly true that focal infections to a great extent are factors in the etiology of the degenerative diseases, among which, arterial degeneration with its many complicating conditions of both mind and body is chief.

Some one has observed that a man is as old as his arteries but this observation was made before the days of intensive study of the role of focal infections. We might now say that the age of a man's arteries depends upon the amount and character of infection which he has wittingly or unwittingly carried through his years.

In order that we may live long and happily, and that we may approach our old age gracefully, it is necessary to live moderately and to free ourselves from focal infections.

The idea of focal infection is not new. Benjamin Rush in 1818 reported a case

of rheumatism of the hip cured by extracting a carious tooth. The principal of focal infection as a cause of acute and chronic diseases has now been fully accepted. It is made the basis for a large proportion of present medical practice, estimated as high as 70 percent. Credit for placing it on a firm scientific foundation goes to Billings and Rosenow. Billings defines a focus of infection as "A circumscribed area of tissue infected with pathogenic organisms."

Foci may be located anywhere in the body, most often in the mouth and its communicating cavities or nearby lymph structures. At times a focus may be located in a most unexpected quarter. The tonsils as a focus is easily recognized and it is now hard for an offending tonsil to escape. The teeth perhaps are more often on the pathological border line than any other organ; and the list of crimes laid at their door is large and continues to grow. Many good clinicians advocate the removal of all suspicious teeth when active symptoms of focal infection are present. Dr. H. A. Cotton of New Jersey State Hospital at Trenton, reports improvement and cure in many psychotic conditions on removing infected teeth and he states that all impacted third molars and all devitalized teeth are infected. A great many pathogenic organisms have been found as offenders, those heading the list in frequency and importance, are members of the streptococcic and pneumococcic groups.

Systemic disease results when pathogenic organisms, their soluble toxins or their debris set up pathological changes in organs which may be contiguous to or far removed from the parent focus. Transportation occurs by hematogenous or lymphogenous routes, and the list of diseases caused is too large to be enumerated. I wish to give especial mention to heart disease.

Undoubtedly focal infection is the principal etiological factor in heart disease—

and this complication may occur at any age in life. In childhood the tonsils are the chief offenders and in adults not only the tonsils but the teeth and sinuses. If the tonsils were properly attended to, the teeth properly looked after and sinus infections promptly treated, it is likely that the incidence of heart disease alone would be greatly reduced.

The physician is naturally interested in the cause of disease and the cause of death. Organic heart disease today is the greatest cause of death. The death rate from diseases of known cause has been greatly reduced. Typhoid fever, yellow fever, diphtheria are nearly blotted out. Scarlet fever has recently been robbed of its sting. Malaria is coming under control. The death rate from tuberculosis has been greatly reduced, but that from heart disease is greatly increased. On an average one death in every ten is due to tuberculosis, and one in every six is due to heart disease. It is estimated that 150,000 persons die of heart disease in the United States annually.

From the draft which perhaps gives the best index of the total number of cardiacs in the entire country it is estimated to be as high as four million. Not only do we have a high mortality from this large number, but there is at least a 50 percent reduction in efficiency and this is particularly unfortunate for the worker who must depend on his daily earnings, who in his endeavor to keep pace with the more fortunate in health, invariably precipitate decompensation, long illness, increased expenses and death.

The three great causes of this disease are, focal infection, syphilis and the degenerative diseases. The latter class may be largely due to focal infections. It is estimated that tonsillitis, rheumatism and chorea are probably responsible for sixty percent of chronic heart diseases — and chorea and rheumatism are themselves considered largely due to infections of focal origin and the frequent accompanying heart disease only another of the effects resultant from this cause. To what extent dental infections contribute to this, I am unable to say but that it plays no inconsiderable part is well recognized; and especially does it have to do with the degenerative changes of adults mentioned as one of the major causes of heart disease.

To correctly diagnose and correctly treat a failing heart is not sufficient. The bigger thing is the prevention of heart failure. One important way to do this, and perhaps the most important way, is through the field of focal infection. I am glad that we are co-operating as never before with the dentists. Focal infection is receiving so much consideration now, it is likely that the next decade or two, will see a great reduction in the incidence of cardiac disease and with that will also be a decrease in the degenerative diseases expressed in arterial degeneration, hypertension, cerebral hemorrhages and paralysis. The list of pathological conditions associated with disease of the heart and blood vessels is so large that volumes have been written concerning it. All this may arise from one infected tooth. The removal of the parent source of infection so frequently does not relieve the situation unless done very early for the secondary implantation has become a focus which must be dealt with independent of its primary source and may continue to flourish long after the parent infection has been done away. This would mean the transmigration of bacteria from the original source to a new field, setting up a new focus with its attendant pain and discomfort.

This may express itself as an endocarditis, a pericarditis, gastritis, gastric and duodenal ulcer, cholecystitis, appendicitis, prostatitis, arthritis, neuritis etc., as true secondary infections or we may have absorption of toxine from the original site and this may cause a psychosis or stiffness and tenderness of varying degree and duration, disappearing and returning in another locality often at short intervals. This is not a secondary infection though it is a focal infection and in this class are to be had the brilliant results in alleviation of general symptoms on removing the source of toxemia but not so when a true secondary focus has been set up. Before results from treatment are obtained it too must have due attention and be eradicated if possible and if this secondary foci are inaccessible we should be in a position to fully discuss them with the patient so neither the patient nor the doctor will be disappointed, but forewarned of the results to be expected—for too often promises of relief from extraction of teeth or removal of tonsils are made and fail to materialize.

This indicates the necessity of a complete and thorough general examination in all systemic infections believed to be of focal origin as true secondary pathological conditions may have been set up which will not be influenced by the removal of the primary lesion.

The absorption of toxins from teeth or tonsils may excite an untoward influence on the course of other disease entities from which a person may be suffering. Browning in the Texas State Journal of March, 1926, discusses the effect of dental infection in tuberculosis in which he states as his belief that flooding the system with bacteria or their toxins is sometimes responsible for an acute exacerbation of the tuberculous condition and frequently for the myocarditis associated with this tuberculosis. As mentioned above, Cotton states that he has by attention to oral sepsis, especially the teeth, been able to discharge 78 percent of patients admitted to the New Jersey Hospital for the insane, whereas the previous proportion of discharges to admissions had been 43 percent. Langsworth in his study of cases at the University of California found chronic infection in 84 percent of ulcer patients, 66 percent of sub-acute arthritis, 73 percent of chronic arthritis and in 100 per cent of gall bladder cases.

Duke in tabulating 1000 medical cases in which patients suffered from some form of chronic disease found a marked degree of oral sepsis in 66 per cent. Thomas in Boston in a similar number of cases found alveolar abscesses in 88 percent. Potter, of Columbia University, New York, gives a list of 31 diseases to which dental sepsis contributes. In the year of 1925, I have personally observed 316 cases mostly chronic, in which oral sepsis was present in 210 and in many was an important etiological factor.

These cases included:

- 1—Appendicitis
- 2—Cholecystitis
- 3—Arthritis
- 4—Pyelitis
- 5—Neuritis
- 6—Nephritis
- 7—Goitre
- 8—Endo-carditis
- 9—Myo-carditis
- 10—Hypertension.

This is only a partial list of the diseases influenced or caused by focal infections but is sufficient to show the great importance focal infection bears to general diseases, both chronic and acute.

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FOCAL INFECTION IN RELATION TO SYSTEMIC DISEASE

F. J. REICHMANN, D.D.S.
OKLAHOMA CITY

In presenting this subject to you physicians I feel that I must follow out the accepted principals of the dental profession as I see them, being conservative and giving nothing to you that is not accepted by a majority of dentists.

An understanding of dental infection as seen by the dentist can be had only after you place yourself in the position of that dentist and try to see his side.

The aim of dentistry is to conserve health and happiness, through the prevention of dental disease; the conservation of teeth through repair and restoration; and to remove harmful pathologic conditions when they are present.

The basic principles of dentistry depend upon the peculiar anatomical structures of the teeth and surrounding tissues, the defensive reactions of the body, and the ingenuity of the profession in devising operations which are compatible with the individual.

I think it apropos at this time to review briefly that part of anatomy which has a direct bearing on our subject, and also the special defensive reactions of the teeth which are peculiar to them only. These will be illustrated with lantern slides in a few moments.

The dentine is a hard ivory-like structure containing minute tubuli running from the pulp chamber to the enamel or cementum. These tubuli contain protoplasmic prolongations of the odontoblasts, which are the dentine forming cells. There is no nerve or blood supply in the dentine. Chemical or mechanical irritation of the distal ends of these protoplasmic prolongations stimulate the odontoblasts in a healthy pulp to form more dentine, and the pulp recedes from the point of assault. At the same time there is an additional calcification of the primary dentine, which

forms a barrier having a tendency to retard the progress of bacteria along the tubuli.

The cementum is a hard bone-like structure that covers the root of the tooth. Its blood and nerve supply is derived from the peridental membrane. No direct communication between the cementum and dentine has been demonstrated.

The peridental membrane is a fibrous structure, with a rich vascular and nerve supply, which encircles the root in its entirety. It is attached to the cementum by means of fibers which bear the same relation to the cementum as the periosteal fibers of Sharpey do to bone. Its vascular supply is derived from the alveolar process opposite the root apex, over the alveolar crest, and thru the wall of the alveolus or tooth socket.

The tooth pulp is a well protected, highly specialized but very embryonic structure. It contains blood and lymph vessels, and nerves which enter through the root apex. It is composed of an embryonic stellate reticulum and odontoblasts.

Now we are prepared to take up the root canal problem. For years this has been a much discussed subject. That devitalized teeth are more susceptible to infection is an established fact. But to assume that all devitalized teeth are infected is false. I shall attempt to show you why it is possible to remove the pulps of teeth and have them remain healthy. If a pulp is removed under surgically clean conditions (and this can be done) and the apical foramen sealed without infection being forced into the peridental membrane, there is no reason to doubt the rationality of the operation. On account of the difficulties of this operation the failures are numerous.

It is necessary to remove every trace of pulp tissue as far as the dento-cemental junction, enlarging the canal and sterilizing it thoroughly. Then a tight root canal filling that will not shrink must be packed into the canal. This is impossible in all except completely formed roots having straight or nearly straight root canals. The chances for failure are increased in multi-rooted teeth, nervous or irresponsible patients, teeth which have crooked roots, or root canals that are difficult of access. If a careful operator, with a thorough knowledge of modern root canal operative technic, attempts this operation

only on favorable teeth in patients having a high resistance, who are willing to sacrifice time for thorough treatment and will co-operate in the operation, the percentage of successful cases will be surprisingly high. This is one of the finest and most delicate of surgical operations and requires special ability. Root canal therapy has earned a bad reputation because it has been misused, not because it is fundamentally unsound. It is not advised for patients having low resistance or evidence of systemic disease which makes it imperative that no chances be taken. This is true of a large percentage of your patients, while we see many that carry even severe looking foci of infection without any apparent inconvenience. So the dentist should be familiar with the patient's condition before attempting such an operation. I would like to spend more time on this subject, but more important things must be considered.

Dental diagnosis is one of the most delicate of specialties. It calls for every atom of knowledge known to medicine and dentistry, and an active brain to co-relate the data and work out a conclusion that will be most compatible to the health and well-being of the patient. The problem would be simple if teeth were not very useful structures. It is better to remove the tonsils and appendix of a patient needlessly than to remove one serviceable tooth needlessly, for the patient will miss that tooth for the remainder of his life. The diagnostician must not hesitate to condemn infected teeth, however, and even slightly doubtful ones when the condition of the patient warrants the sacrifice. This decision depends upon:

1. The condition of the patient.
2. Other foci of infection found.
3. Vocation. Avocation.
4. Restoration possible.

The methods of dental diagnosis, in approximate order of importance are:

1. Inspection.
2. Exploration.
3. Dental history.
4. Radiograms.
5. Special tests for pulp vitality.
6. Palpation.
7. Percussion.
8. Transillumination.

A thorough knowledge of the anatomy, histology and physiology of the teeth and

all surrounding structures is necessary to successfully use any of these diagnostic aids. A knowledge of dental pathology and the basic principles of operative dentistry is necessary to interpret any pathology found.

At this time I wish to say a word about the limitations of the X-ray in dental diagnosis. It is *one aid* in dental diagnosis, and is not the last word. The radiogram does not reveal infection, but the result of infection when that result is manifested by osteoclasia or condensing osteitis which is not hidden by the root apex or other structures.

The radiogram does not reveal the severity of infection, because the virulency of the organism is not a controlling factor in the extent of change of bone structure. It is my belief, and that of most dentists, that a large definitely circumscribed granuloma (produced as a *defense*, as all dental granulomata are,) is less apt to be a focus of infection than a small diffusely outlined osteoclasia or condensing osteitis.

I have used the term "focus of infection" for the first time. The American Medical Dictionary says that a focal infection is; "An infection in which bacteria exist in circumscribed confined colonies in certain tissues, and from these are sent out into the blood stream."

Many apical granulomata have been proved to be sterile. In these cases the resistance of the patient has successfully combatted the infection. These cases are found only in very healthy patients. In a few cases granulomata have disappeared after root canal treatment. We do not often attempt this, as the result is very doubtful.

It has been proven quite definitely that patients having a high resistance to infection have also a very extensive zone of rarification about infected teeth. This rarifying osteitis with a definite fibrous capsule is a protection. It is true that if this same patient loses his high resistance through an overload of some kind there is a condensing osteitis instead of a rarifying osteitis about the infected zone. In cases of low resistance the rarification is smaller and more diffuse in outline. The so-called dental granuloma is not a true neoplasm, but is a defensive membrane. It has been described as a mechanism for protecting the individual by segregating and destroying

the organisms at their source. From the facts just mentioned we should remove teeth having periapical rarification about them as a prophylactic measure, and should search very carefully for apical pathology in patients having a low resistance, as we must not expect large rarified areas in these cases. Pathology is often found more easily when the resistance is high because the reaction to insult is very marked. It is the difficult cases that give the greatest promise of relief if successfully worked out.

Gingival infections showing marked reaction are easily found and respond favorably to treatment. Those types having low resistance do not cause the patient any inconvenience, and there is no flow of pus. This is the type of gingival infection that is most liable to cause systemic disturbance. There is another type of case which is characterized by rapid resorption of the alveolar process and loosening of the teeth. This process itself is regarded by many as protective. It does not respond to treatment as the teeth are being exfoliated as foreign bodies. The treatment is removal of all teeth at once to save the process for artificial dentures.

The relation of oral infection to systemic disease has long been recognized by dentists. W. D. Miller in 1890 wrote: "It is a well known fact that the inflammatory processes in the tooth pulp, pericementum, and gums lead not only to obstinate neuralgias but also to severe diseases of the eye, ear, to eruptions of the skin, etc." There is evidence that the following diseases have been definitely proven to be caused in many cases by hematogenous metastasis from a primary focus of infection:

Acute endocarditis	Acute iritis
Acute pericarditis	Acute uveitis
Acute pluritis	Acute retinitis
Acute peritonitis	Acute optic neuritis
Acute infectious arthritis	Acute thyroiditis
Acute tenovaginitis	Acute pancreatitis
Acute bursitis	Acute nephritis
Erythema nudosum	Acute pyelitis
Purpura hemorrhagica	Acute neuritis
Bronchopneumonia	Acute myelitis
Acute appendicitis	Acute poliomyelitis
Acute enteritis	Acute meningitis
Acute colitis	Herpes Zoster
Acute gastric and duodenal ulcer	Acute chorea
Acute conjunctivitis	Acute myositis
Acute keratitis	Acute myocarditis
	Osteomyelitis

Chronic diseases are also attributed to focal infection, but this cannot be so de-

finitely proven because they do not clear up after removal of the focus without other treatment. Anemia, anaphylactic reactions and even neurasthenia have also been attributed to this condition.

Since there are other common locations for foci of infection besides the teeth it is necessary that every case of suspected focal infection be thoroughly examined. This requires careful examination of the nasal passages and sinuses, the throat, abdomen, genito-urinary system, and rectum. This is to include any aids to examination necessary, such as radiographic, bacteriological, etc. The clinical history should aid in determining where this examination should be carefully rechecked, but it should be complete in every case. After this is done the dentist should be informed of the results of the examination, he should be made familiar with the patient's general condition, and then asked to render his report of the mouth condition. In this way only can we work in harmony to get the best results for the patient.

Just a word about sensational collections of cases. It is easy to collect truly startling data regarding dental infection. By selecting a hundred cases out of several thousand one can compile data that will prompt us to have every tooth on our own heads removed without bothering to have an examination. And this sensational work is being done by those who love to rush into print. Doubtful methods of compiling data by pseudo research workers, who insist upon getting the result they predetermined should be true, is confusing, and our literature is full of it today. If you wish to read reliable dental literature along this line, I suggest articles by such men as Black, Hartzell, Rickert, Hatton, Buckley, Noyes, Bunting, Lyons and Grieves.

Let us trace briefly what happens when infection enters the tooth pulp. There is a hyperemia, causing odontalgia. The pulp finally dies, probably through strangulation, and the infection is essentially a lymphangitis in the beginning. So the infection passes directly into the bone. At this time the pain is relieved by pressing on the tooth and it is not sensitive to percussion. This means that the peridental membrane which contains the tactile sense of the tooth, is not involved. Efficient root canal therapy at this time in a favorable case is a success. If untreated the inflammation in the bone continues,

causing absorption, hyperplasia, or necrosis. There is no abscess, as there is no pus formation, the defense being essentially a process of walling off the organisms, which however are being constantly replenished by the now necrotic pulp. When the pathology spreads it involves the peridental membrane, causing the tooth to feel high, and it is very sensitive to percussion. When the peridental membrane is divided from the root and the cementum becomes necrotic, pus formation begins and root canal therapy is impossible. Then the apex of the tooth is truly "dead" and removal is indicated.

Now let us briefly evaluate the focal infection theory as accepted by most dentists. We do not discount the seriousness of mouth infections, but we must insist upon the correct evaluation of other foci of infection. Hartin in the ANNALS OF SURGERY, October, 1922, in a tabulation of sources of bacteria recovered from the blood by cultural methods does not cite one case in which the mouth was the primary focus. According to many workers acute middle ear and mastoid infections are much more prone to metastasis. Irons and Brown¹, in studying the etiology of iritis say that condition is much more prone to be caused by either of the above mentioned conditions.

In reading the data compiled by Rosenow, and others who have had thousands of teeth cultured in their laboratories after having been extracted in the dental department, please remember that the chances for error are tremendous. It is my belief that it is physically impossible to extract a tooth without contaminating the root apex, and this is borne out by careful cultural work, done through the alveolar process before the tooth is removed, by Rickert and Lyons. Rosenow himself admits that he reported the data submitted to him by his laboratories, he having practically nothing to do with the technic used. Shall we reduce our art to bacteriology, or shall we recognize that there is more to be considered? Dr. Crile² beautifully compiles the causes of disease. Among other interesting things he says: "Prolonged consciousness, muscular action, emotion, mental exertion, foreign protein, infection, even pregnancy, cause identical histological changes in the structure of each organ concerned in the transformation of energy, and in the neutralization and the elimination of the resultant acid end products."

I believe that the theory of localized foci of infection in the mouth is a definite thing, but the extent to which it may be responsible for general systemic disease is different for each case, and cannot be worked out in a routine way in a laboratory.

I believe that in many cases the micro-organisms of oral sepsis become active *after* the bodily resistance has been lowered; that the very bad mouth condition of our hospital patients is the result of disease, not the cause.

Last of all, let me plead with you. Let me intercede for a useful and necessary organ of our bodies, the organ of mastication. With theories and scary howling all about us, like the label on a patent medicine bottle, let us be calm and reason things out before we mutilate a human body by taking away a useful part that can never be replaced as satisfactorily as it was. Let us consult and save the patient's body as well as his health. I beseech you, don't place a premium on the dental extremist. Please refrain from ordering a patient to have his teeth removed until you have done everything possible to save them. Be sure of your diagnosis, and have the courage to carry it out for the good of the patient and the comfort and happiness of the years you can save for him. And work with us to that end and I pledge you that we dentists will bear our share of the burden.

1. Journal American Medical Association, November 24th, 1923.

2. Journal American Medical Association, 1915, Jour. Surg. Gyn. and Obs.

FOCAL INFECTIONS IN THE NASAL SINUSES

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Clinical studies have shown that focal infections are present in demonstrable forms in a high percentage of the sick and the etiological factor can be frequently traced to an apparently innocent nasal sinus.

Rush in 1801 called attention to some rather remarkable results following the extraction of decayed and diseased teeth. Miller in 1889 demonstrated that infections of the mouth may cause constitutional diseases. Billings and his co-workers forcibly called the attention of the profession at large to septic foci as sources of

chronic infection conveyed by the blood stream. Rosenow demonstrated in minute detail the value of elective localization, and his studies have shown that foci of infection in a given case may harbor the same type of bacteria that is found in distant lesions.

Maxillary sinusitis of oral origin is now a common disease, and fully fifty per cent of the infections of the antra can be traced to diseased teeth. The relative frequency of ascending infection of the antrum of Highmore has compelled the rhinologist to investigate the teeth more carefully in his routine examination. Until recent years practically all of the infections of the antra were attributed to descending infection from the frontal sinus and ethmoidal cells. Black and others emphasize the importance of dental lesions in ocular diseases.

The incidence of focal infection in the nasal sinuses is far more frequent than members of our chosen profession are prone to realize and there is no part of the body where a focus may be more securely hidden from detection of the casual observer.

The infection may travel by absorption of toxins and by invasions of the blood stream by bacteria with secondary localization or by contiguity of tissue.

The general effect upon the patient from absorption in acute infections of the nasal accessory sinuses depends largely on the amount of drainage in the sinus involved. The symptoms may be general if there is free drainage, whereas, the symptoms are usually local and pronounced where the drainage is blocked.

In chronic infections of the accessory sinuses the nature of the drainage is usually the determining factor in the production of symptoms. The amount of pus is not an essential factor as infections with the production of very small amounts of pus produce more marked symptoms. The mucous membrane too frequently constitutes a focus from which toxic substances are absorbed producing symptoms. The harm from foci of the infection must be considered as being due to the absorption of toxic bacterial products, as well as to the entrance of the living bacteria into the circulation.

In order to arrive at a correct diagnosis it is essential that the rhinologist and the dental surgeon work more closely in the

investigation of maxillary sinusitis. Dunning is of the opinion that it would be best in most all cases for the dentist when he discovers a case of maxillary sinusitis to turn over the case to the rhinologist as many of the supposedly ascending infections are in reality due to descending infections. At the same time it is essential that the rhinologist know in every case of antral infection the condition of the teeth and the oral tissues.

The diagnosis of infections of the accessory sinuses is usually relatively simple. It is essential to secure good, clear X-ray films in order to definitely determine the extent of the infections of the sinuses.

No attempt is made to discuss the mode of treatment, however, the essential factor in treating infections of the nasal sinuses is to secure good drainage even though it may be necessary to sacrifice some of the apparently normal nasal tissue.

This discourse has been so elemental that I cannot do better in closing than to quote a familiar passage from "Mother Goose."

"Three men went out to sea in a bowl
If the bowl had been stronger
My tale had been longer."

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RELATIONSHIP OF CONSTITUTIONAL AND DENTAL DISEASES

IRA E. MCCARTY, D.D.S.
TULSA

I am mindful of the honor in being asked to appear before the Oklahoma State Medical Association, and take part in the presentation of this Symposium on the very important subject, "The Relationship of Constitutional and Dental Diseases," and will offer a few observations from clinical experience, with the thought of attracting the attention of those members of both the medical and dental professions, who seem to have not arrived at the realization that the oral cavity and its structures are a part of the human body worthy of serious consideration when endeavoring to determine the causal factors of systemic lesions.

Professor Merritt, of Cornell University, says: "That an uneducated man has two mental pigeon holes, one called absolute truth, and the other absolute falsehood." "Every idea that comes to such a man, must be put into one pigeon hole or the other." A scientist or research man has a long row of pigeon holes. That, at one end, is labeled *absolute truth*. It is always empty. That, at the other end, is labeled *absolute falsehood* and it too is always empty.

Every finding that comes to such a man is placed in the intervening pigeon holes and as studies and observations are made he moves the results closer to one end or the other. They are only approximate, but constant research makes the approximation closer and closer. He is an incorrigible skeptic, and until he has exhausted all the possibilities of going wrong, he can never be quite sure of going right.

Such men as Billings, Rosenow, Price, Shearer and others, through long years of research, observations and experiments, have demonstrated that dental infections are an important contributing factor in the causation of many degenerative diseases; as nephritis, myocarditis, endocarditis, arthritis, neuritis, gastric ulcer, cholecystitis, appendicitis, neurasthenia, psychoneurosis, iritis, retinitis, myositis, etc. Duke, of Kansas City, gives case histories showing that chronic foci of infection within the mouth, increase the severity of unrelated infectious diseases, such as syphilis, tuberculosis, etc. He says: "That there seems to be a general deleterious effect produced, and the patients lose weight and show susceptibility to intercurrent diseases." "When the oral foci is eliminated the patient's improvement is very marked."

We all know that from a few hours after birth and until death, every individual's mouth contains a great variety of bacteria, some of which are *harmless* while others are disease producing, under the proper conditions of environment and susceptibility.

There are a few varieties of special interest in this connection. The streptococcus viridans, pneumococcus, various members of staphylococcus group and fusiform bacillus. The streptococcus forms about 50 per cent of the bulk of microorganisms in the oral cavity. The mouth having an abundant blood and lymph sup-

ply, it affords a ready gate-way to the general circulation.

In 1909, Sweitzer, of Berlin, demonstrated a direct connection between the pulps of teeth and the lymphatics of the neck. This was later confirmed by Dewey of Chicago, who used a dye to inject into the tooth pulp and found that it passed on into the glands.

Price, found in culturing several thousand teeth with pulp involvements, more than 95 per cent to be infected with diplococci or streptococci, (mostly green producing or viridans).

Dr. Chas. Mayo says: "That acute and chronic infections (those bacterially caused) account for 87 per cent of all deaths."

Considering these facts, other available information, and the knowledge that most adults and many children have broken down and diseased dental tissues, which are all potential sources of focal infection, it becomes quite clearly the duty of every physician to give the most careful and earnest consideration to the oral tissues of every patient.

This can best be accomplished by co-operation between the physician and a dentist, capable of diagnosing dental pathology and correctly interpreting dental radiograms. The dental radiogram is of utmost value in diagnosis (if the doctor has some knowledge in addition to that obtained from the X-ray salesman).

Occasionally pathology is read into radiograms, but more often the true condition is not fully revealed, due to the density of over-lying bone and tooth roots, and the line of the direct ray missing a portion of the area, resulting in improper exposure.

Degeneration of pulp tissue (excepting calcific degeneration) is rarely revealed radiographically, and must be supplemented by all other aids at our command, such as the electric vitality test, thermal test, percussion and history, both local and general.

Patients presenting with edentulous mouths complaining of neuralgia and headache or other symptoms of obscure origin should be radiographed, to reveal the persence, if any, of root fragments and residual areas.

The presence of unerupted and impacted teeth, which are a vastly under-estimated

source of trouble, root fragments and residual areas of infection following incomplete surgery, or tooth pulling, as generally practiced, are readily revealed.

Gardner, reports on examination of 28,000 patients in the Mayo Clinic in one year, that 30 per cent of these patients had roots left in the mouth. Four per cent had impacted or unerupted teeth, 35 per cent had residual granulomas.

Over a period of twelve years, Shearer found on examination of 1,800 edentulous mouths, 527 having either sharp knife-edge ridges of bone or others resembling the edge of a saw blade, all giving a great deal of trouble and necessitating re-operation.

From the abundance of available evidence, it becomes quite apparent that the most careful surgery should be employed in the mouth in all cases of removal of teeth and accompanying oral pathology.

My own experience, daily proves this to be true and I have selected from a variety of material the following reports, only, because of the more complete data available from the attending physician.

Mrs. A., age 39, was first seen May 2, 1923, at which time she was under observation in St. Anthony's Hospital for several weeks.

The salient features in this patient's history and examination are: her family history is free of cancer, goitre, mental disease, transmissible tendencies and stigma of degeneration, with the exception that her mother and her mother's two sisters were of a nervous disposition subject to very severe headaches, and these two aunts died of paralysis.

Patient is a well developed, robust looking woman, with eyes so prominent as to suggest exophthalmia. She enjoyed good health until 15 years ago, during the last 15 years she has had several abscessed teeth and slight irregular leukorrhoea. Five years ago she began to have mild attacks of "rheumatism", feeling of stiffness and soreness for a few days at a time in neck, back, arm and thigh muscles.

In 1918 and again January, 1923, she was ill, a few days, with influenza, no complication. During the last four years and especially the last two years, has been nervous, and cries easily. During the last three years has been subject to attacks of vertigo.

PRESENT COMPLAINT

During the last five months has lost 15 pounds, has dyspnea on exertion and asthenia. During the last four weeks has had frequent cardiac consciousness, fluttering, beating slow and hard, especially after meals, and at night in bed. Constipated and nervous during this same period.

PHYSICAL EXAMINATION

Eyes: Pupils equal irregular, reaction normal to light and accommodation, no optic nerve or other eye trouble.

Tongue: Slightly coated, otherwise normal.

Teeth: Bad.

Chest: Breasts and lungs normal.

Heart: Size and position normal, aortic second sound short, sharp and accentuated, accompanied by distinct pulsation of carotid arteries, heart sounds otherwise normal, no murmur.

Skin: Normal, no redness, no dermatography, no thyroid collar.

Neck: Normal, no enlargement of thyroid.

Tendon Reflexes: All slightly plus.

Mentality: Quick, nervous, fearful, otherwise normal.

Radial Pulse: Normal except rate, prone at rest 82, sitting at rest 92, standing at rest 104, after slowly walking around room 1-4 hour, 130, no deficit.

Blood Pressure: Left arm, Systolic 120, Diastolic 60. At times patient has attacks of nervousness, tearful excitability accompanied by tachycardia and fine rapid generalized tremor.

Fluoroscopic Examination: Chest and abdomen revealed no abnormality.

Basal Metabolism: (Tissot) 3 determinations, normal.

Blood: Red cells and hemoglobin normal, on admission leucocytes were 10,000, differential normal. Ten days later, leucocytes 7,000.

Urine: On admission the 24 hour output was insufficient, 550 c.c. Fixation of gravity at 10.20, considerable albumen, no glucose, no casts.

Blood: Sugar normal, nonprotein nitrogen 30 per cent above normal on admission, one week later 15 per cent above normal and at time of discharge 5 per cent above normal (taking 30 mg. per 100 c.c. as normal).

The patient was seen at intervals of several weeks after she left the hospital until July, 1293, during this period her condition was apparently normal, and she felt better than she had in years.

In August, she was seen at her home, in consultation at which time she was gravely ill with typical symptoms of renal insufficiency—uremia.

Diagnosis:

1. Chronic focal infection (probably teeth).
2. Chronic nephritis (probably from focal infection).
3. Chronic myocarditis.

A recent note from the doctor says: "Nothing in the course of this case to the present time indicates to me reason for revision of my primary diagnosis. I feel quite sure this woman did not have thyroid disease at any stage of her illness."

Early in 1924 a diagnosis of diseased thyroid was made and thyroidectomy performed. Recovery from operation was satisfactory, but with no improvement in general condition. Three months later the operating surgeon suggested tonsillectomy, this was not done.

In July the patient presented in my office with full set of dental radiograms, disclosing marked destruction of apical areas, some condensing osteitis and gum infection. The mouth was operated, followed by rapid relief from all symptoms and complete recovery. She has gained 22 pounds in weight. I saw her in April 1926, when she said she was enjoying good health.

No. 2 Patient: E. A. C. Age 35.

Date: February 26, 1924. The patient came to me complaining of soreness of right eye.

Family History: Negative.

Past History: Childhood diseases. Has had several attacks of tonsillitis.

Present Complaint: On February 25th, the patient got up in the morning with pain and soreness of the right eye.

Examination: Marked ciliary injection of the right eye. Iris rigid and dilated under atropine slowly. Advised X-rays be taken of teeth.

Patient put on 1 percent solution of atropine every three hours and hot compresses to the eye. The X-ray showed three teeth abscessed and the patient was referred for extraction.

I found some gingival infection in addition to the three dead teeth, which was cleared up, the teeth removed and patient sent back to his physician, who continued treatment for about ten days, without improvement. The patient was then sent back to me for further examination, when I found, on percussion, a dead bicuspid which had not changed color and was radiographically negative. This was removed and in three days, the pain had subsided and in one week the eye had completely cleared up.

No. 3. Patient: G. L. B. Age 72.

Attorney, presented himself in May, 1924, in a very run-down nervous condition, with a history of poor health for the preceeding six months. He complained of digestive disturbance and chronic constipation, frequent nocturnal urination, pain in the lumbar region of the back and extreme nervous irritability.

Examination: Showed practically nothing excepting a very large prostate with the train of symptoms which usually accompany this condition. He denied any venereal history and his symptoms confirmed this.

He was put on hot enemata, prostatic massage, endoscopic treatment of the posterior urethra, with heavy solutions of silver, etc., and he made a very satisfactory recovery. He was seen at intervals until April 12, 1925, when he presented himself with a double epididymitis and the usual protective hydrocele on each side, he was running a little temperature, feeling a little chilly. He was put to bed with heat to the scrotum and the usual treatment instituted to promote drainage from the vesicles.

He improved very slowly for the next five or six weeks, when X-ray of the teeth was made and five teeth condemned as being sources of focal infection. These were removed and the week following their removal, showed a very rapid improvement with softening and reduction in size of both epididymes.

At this time, two weeks after removal of the teeth, the epididymitis has practically disappeared and taking into consideration the length of time during which the case was nearly at a stand-still before the teeth were removed and the rapid recovery afterward, I think that the connection between the epididymitis and the focal infection is clearly shown.

No. 4. Patient: Mrs. H. Age 39.

Patient was seen March 18, 1926, in consultation.

History: Illness for the past two years, confined to the bed most of the time and treated for pulmonary tuberculosis.

Physical Examination: Patient was very nervous, unable to be out of bed. Complained of weak spells which she feared would be fatal. Indefinite pains in knees, back and head. There had been a progressive loss of weight and insomnia. Symptoms typical of goiter were absent. Pulse 120, heart would become very rapid and pulse thready.

Blood Pressure: Systolic 118, diastolic 84.

Blood Count: Leucocytes 9,800, red blood cells 3,160,000. Hemoglobin 52 per cent. No cardiac murmurs excepting at base on movements.

Lungs: Clear.

Pelvis: Negative.

Blood Wassermann: Negative.

There was a Vincent's infection of the gums with bleeding and offensive odor. There was evidence of other dental infection which was proved by the dental radiograph taken later. Previously to this time she had been told her teeth and gums were in a healthy condition.

She had been seen by two surgeons who advised an immediate thyroidectomy for exophthalmic goiter, which was not done.

On April 16, 1926, I was called and removed a few teeth. A week later we succeeded in getting her into the hospital where the operation was completed and patient was dismissed April 29th, with no further medical treatment.

Blood Color: 80 percent.

Basal Metabolism: Normal.

Pulse: 64 to 76. The only symptom was a tendency to fast pulse on exertion.

Her improvement was very marked, all symptoms cleared up and she was last seen May 6, 1926.

In closing I wish to thank Drs. John A. Roddy, D. O. Smith, H. P. Price, and H. B. Justice for their co-operation and assistance in supplying the data in these reports.

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SOME TRAIL BLAZERS OF MEDICINE

PRESIDENTS ADDRESS

Delivered at the 29th annual meeting of the Santa Fe Railway medical and surgical society.

Albuquerque, New Mexico
September, 8-9, 1926.

FRED S. CLINTON, M.D., F.A.C.S.
TULSA

To have been elected President of the Santa Fe Railway Medical and Surgical Society, is an honor of which any member may be justly proud and on this occasion it is my pleasure to publicly acknowledge appreciation to the Chief Surgeon, Dr. J. P. Kaster and the membership.

The great antiquity and the vast achievements of medicine have recently aroused much historical interest in the activities of the disciples of Æsculapius.

Since medicine has opened the cloistered door and through team work sought to bestow its benefits on mankind, great things have occurred.

As the Chief Surgeon is to formally open the splendid Santa Fe Hospital in the city tonight, it might be of interest to mention the names of some of the first railway surgeons in America. Mr. James A. Jones of the F. W. and D. C. Ry. Co., by great industry has found no surgeon present at the birth of America's first railway—the B. & O. which began operation about 1827. However, he found in July 1834, Dr. James P. Quinn of Martinsburg, W. Va., was appointed railway surgeon for the Baltimore and Ohio Railway from Point-of-Rocks to Harper's Ferry. He was surgeon for nearly all of the railroad in the United States, though it comprised only 12.9 miles. In 1849, Dr. Apply of Cochocton, N. Y., was appointed surgeon for the Erie Railway at that place. He was its first surgeon, and the second railway surgeon in America, serving until his death in 1877—26 years.

The third known railway surgeon in America was Dr. John Lowman of Youngstown, Ohio—the first surgeon on

the Pennsylvania Railroad, receiving his appointment in 1858 and continuing in service until death in 1888. The fourth known railway surgeon was Dr. W. R. Hamilton, of Pittsburgh, Pa., appointed in 1862—surgeon by Andrew Carnegie, then an official of the Pennsylvania Lines. Dr. Nixon—who in 1868 was the first chief surgeon, appointed to serve the Southern Pacific Lines. During his seventeen years service the first exclusive railway hospital in the world came into existence at Sacramento, California. Next followed a hospital on the Missouri Pacific Railroad and then the Santa Fe. Nearly all railroads recognize now the importance of hospitals to employees and employers. And other great industrial affairs are following in the wake. These fragmentary references to some of the pioneers in railway surgery in America suggest the richly romantic theme for this occasion—SOME TRAIL BLAZERS OF MEDICINE.

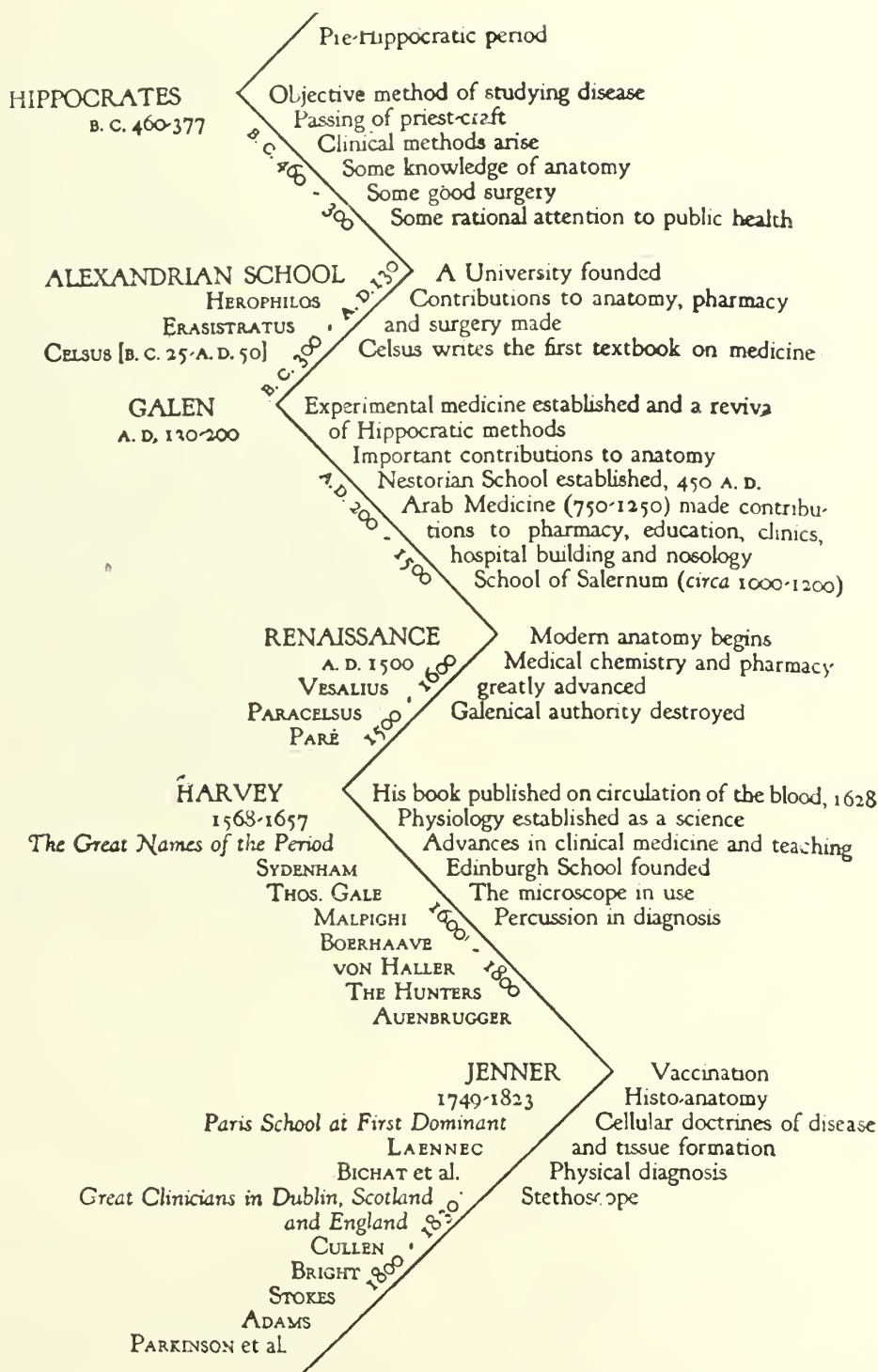
From remote antiquity, intelligent men have been interested in medicine. The two sons of Æsculapius went as surgeons to the Grecian army during the Trojan War, 1200 B. C. The Greeks were the real founders of Medicine and the cures of Æsculapius angered the Gods. He was — “the great master who joined the limbs of torn Hippolytus and brought upon himself the Thunder's wrath.”

The great clinician Hippocrates, B. C. 460, was the father of orderly medicine, for he collected facts, made new observations and introduced rational principles of investigation and practice.

It does not fall to the lot of every man to make a great revolutionizing discovery, but in this day of the printing press and other numerous methods of communication, he may be led from darkness into light. A few have stood at pivotal points in history and blazed the trail out of the wilderness into the plain of knowledge. It takes concentration, conscience, conviction and courage to be a real trail blazer. Dreams are necessary but results require sterner stuff.

The Peaks of Medical History by Charles L. Dana—March 1926, gives the following graphic:

OUTLINE OF THE SIX PEAKS OF MEDICAL HISTORY FROM HIPPOCRATES TO JENNER



It would be impossible to mention all the names of the vast number who have made valuable contributions to medical progress. However, the following bright particular stars may be selected as having shed light into the dark places and made the last seventy-five years of medicine of greater scientific value than the preceeding number of centuries, in alleviation of pain and suffering and in the discovery and prevention of disease.

The discovery and development of vaccination against small pox by Edward Jenner (1740-1823) in 1798 was published in a pamphlet entitled "An inquiry into the Cause and Effect of the Variolæ Vaccine and Cowpox." The application of this one discovery will prevent the development of small pox, which is said to have caused the death of over 60,000,000 people in Europe during the 18th century. The following epitaph is found upon his tomb.

Within this tomb hath found a resting place
The Great Physician of the Human race—
Immortal Jenner.

Whose gigantic mind brought Life and Health
To more than half mankind.
Let rescued infancy his worth proclaim,
And lisp out blessings on his honored name;
And radiant Beauty drop one grateful tear,
For Beauty's truest friend lies buried here.

The first intentional ovariectomy was performed successfully by Ephriam McDowell, an American, in 1809.

We wish to:

"Part the mists which almost hide
A man of former days,
And spin upon the Wheel of Truth,
Some golden threads of praise."

The *Discovery of Anesthesia* by Dr. Crawford W. Long of Georgia in 1842—Bacteriology by Pasteur and Antiseptic Surgery by Lister constitute the great medical trinity of the 19th century. The relative value of the discovery of anesthesia by Dr. Long was presented by Dr. J. M. DaCosta as one of the greatest in the history of science and ranks in importance with the discovery by Harvey of the circulation of the blood — by Franklin of phenomena of electricity, by Jenner of vaccination—by Pasteur of Bacteriology and by Lister of Antiseptic Surgery. It opened the door for the painless entrance to the great concealed cavities of the body and abolished pain during all operations.

The first published account of Cocaine as local anesthetic was in 1884 by Karl Koller, who used it in the eye and W. S.

Halstead was the first to use it in general surgery.

Pasteur—(1822-1895) the father of bacteriology and the practical application of the modern principle of preventive medicine saved France from more than the cost of the France-Prussian war through his bio-chemical revelations. The science of the development of infectious diseases by Robert Koch, the discoverer of the *Bacillus Tuberculosis* and *Cholera bacilli*, led the way for serum treatment of Diphtheria and other diseases by Roux and Von Behring. The science of serology came later.

Lister in 1867 announced the principles of antiseptic surgery. This monumental work revolutionized the art and practice of surgery and challenges the admiration of every thinking person who glories in making operations safe.

In 1893 Conrad Wilhelm Roentgen discovered the X-rays. The wide use of this addition to science improved the diagnosis in many obscure conditions, made treatment more exact and revealed living pathology.

What is the chronological development of Cause and Prevention of some of the commoner decimating diseases?

1880 Carl Joseph Eberth discovered the bacillus of typhoid fever.

1882 Ehrlich introduced his diaso-reaction test.

1884 Geo. Gaffky, Koch's pupil and successor in Berlin, procured the first cultures of the *Bacillus Typhosis*.

1888 Widal and Chartemesse vaccinated against it.

1895 Haffkins of Odessa, when in London, persuaded the Netley Pathological Laboratory authorities to undertake inoculation with typhoid vaccine on those going to tropical countries.

1897 It was begun and since then largely used, especially in the army, railroads, hospitals, cities, schools and the Great War.

1896 The vaccine was first prepared by Sir A. E. Wright and Major D. Semple.

1896 Widal and Sicard introduced the agglutination test for typhoid.

1890-

1898 Wright inoculated over 3,000 soldiers in India and all forces in in the South African War.

1900-

1903 Sir Wright introduced preventive inoculation with the opsonic index as guide. He deserves credit for perfecting vaccine-therapy.

1912 Experiments begun in 1900 by Surgeon-General G. H. Tornay and F. F. Russell of the U. S. Army — resulted in vaccination of 20,000 by Major Russell with "absolute success." What a blessing this would have been to the Spanish - American war volunteers.

Thus now are a great many achievements being methodically wrought.

The scientific labors of Laveran, Sir Patrick Manson and Sir Ronald Ross demonstrated the cause and prevention of Malaria by destroying the mosquito and his breeding places. The economic importance of his observation may be estimated when it is stated that in 1900 — in Indian alone 4,919,591 deaths occurred from fever — mostly malarial.

In 1889, Reed, Carrel, Lasear and Agamonte, made the immortal demonstration in Cuba of transmissibility of yellow fever by mosquitoes—as had been suggested by Carlos Finlay in 1881-2.

In 1901 Major W. C. Gorgas, as Chief Sanitary Officer began to screen yellow fever patients and destroy mosquitoes — thus freeing Cuba of the disease in three months for the first time in 150 years.

His next great sanitary triumph was the Panama Canal Zone. This "White Man's Grave" where 50,000 Frenchmen died was cleared in 16 months of Yellow Fever and other dangerous infections permitting the construction of the canal. Ships can now pass through this great continental divide in eight hours, while it formerly took 48 days to round Cape Horn.

How now are these few examples and numerous other *trail blazing* efforts to be utilized for the benefit of mankind? Through education. Let the printing press and the school be harnessed as chariots of publicity. *Teach all men the way, the how and the when to save life, health and happiness through intelligent, co-ordinated action.*

Let America, the great young giant continue to be a teacher and benefactor to all the world by systematically applying the principles of truth and health.

Think of the preservation of life, liberty property and pursuit of happiness conferred not only on the Americans but upon all the wide world by the instrumentality of the ROCKEFELLER FOUNDATION. In its 1924 Annual Reports, President George E. Vincent said under the paragraph entitled "Servant of a Common Cause."

This summary story of a year's activity records co-operation with thirty-two commonwealths of the United States of America and with seventy-seven other states and countries. Now and then someone has asked whether such aid from without does not imply a kind of condescension; whether the Foundation does not seem to covet the role of a corporate Mæcenass of medicine. This answer is that the very nature of the work precludes a feeling of Chauvinism and of patronage. To visit many countries, to note the things in which each excels, to meet men and women who are contributing to the world's store of scientific knowledge and skill, to learn of their plans and needs, to make easier the migrations and interchanges of scientists, to facilitate that commerce of ideas which enriches all lands — to have a share in all things is to realize that scientific progress, the development of education, the fostering of the fine arts, are not the work of one country or race but of continuous international intercourse. The Rockefeller Foundation within its chosen field seeks to share in this common task as a means of realizing the purpose of its charter, "the well-being of mankind throughout the world."

May the spirit of that Master Clinician and Teacher, Sir William Osler, continue to inform and inspire us.

In a copy of his address "A Way of Life" in Osler's Library is inscribed the following poem, "The Salutation of the Dawn*"

Listen to the Exhortation of the Dawn.
 Look to this Day.
 For it is Life, the very Life of Life.
 In its brief course lie all the
 Varieties and Realities of your Existence;
 The Bliss of Growth,
 The Glory of Action,
 The Splendour of Beauty;
 For yesterday is but a Dream
 And tomorrow is only a Vision;
 But to-day well lived makes
 Every Yesterday a Dream of Happiness,
 And every Tomorrow a Vision of Hope,
 Look well therefore to this Day.
 Such is the Salutation of the Dawn.

*Said to be from the Sanskrit. The poem was published, as an inserted frontispiece, in "Words in Pain," Lond., G. M. Bishop, 1919. Dr. Wm. Osler expressed in a pencil notation his great admiration for this classic.

DIPHThERIA*

CHAS. W. FISK, M.D.
 KINGFISHER

Having encountered difficulties and hardships on a long journey, we may be encouraged by reviewing the obstacles we have already surmounted and go on our way with renewed confidence and assurance. It is in this spirit that I shall present this paper.

The first serious disease that came under my observation as a child was diphtheria. The picture, with all its tragic details, was indelibly stamped upon my mind. There was no quarantine, no separation of the sick from the well.

Visitors were allowed to come and go at will. The disease was epidemic and the mortality was high. It was believed to be contagious in some mysterious sort of way, but no measures were taken to stay its progress. The medical text books were silent on this very important subject.

Heroic measures were used to remove the offending membrane. Active caustics of many kinds were applied, which were of little benefit but rather favored the spreading of the false membrane and increased the toxemia.

With a better knowledge of the cause of the disease measures were directed toward the destruction of the infecting germs. Solutions were employed by means of the applicator or spray and some of the most active poisons were given in large doses, that the blood might be made toxic to the pathogenic bacteria.

That this treatment was not satisfactory is plainly shown by the long list of drugs which were employed.

If the remedies used for the cure of a disease are numerous, it is presumptive evidence that none of them have been satisfactory. When the disease was of a mild type and progressed favorably, the last remedy used was likely to receive credit for the favorable termination.

The malignant type followed its course to a tragic ending unmodified by any treatment. I heard Dr. Knox of Rush state that he had treated thirty consecutive cases of diphtheria without a single fatality. He had recently visited a little boy of a family of three children. The other two were sent away from home at once. He said "The first one has died. One of the others now has diphtheria and he will die. The third one will be stricken by it and he too will die. Gentlemen, this is diphtheria."

In company with an older physician I visited two little girls who had diphtheria. Neither of us had seen them before and they were not believed to be seriously ill. He predicted that one would die the following night, that the other would not live through the next day and that the third and only child of the family left would probably fall a victim to the disease. All of which followed in regular order.

These incidents are related that we may be reminded of the feeling of utter helplessness experienced, when we encountered certain types of diphtheria.

We welcomed antitoxin as a possible specific. At the meetings of this association there were many heated discussions before the final conclusion was reached that our faith was well founded.

We have witnessed very encouraging changes. With efficient quarantine the incidence of the disease has been greatly reduced. We should never witness such wide spread epidemics as have been encountered in the past. The mortality rate has been greatly reduced, and should be lowered still further.

An early diagnosis is important both to limit the spread of the disease and to secure the best results from treatment. We were taught to make a diagnosis from appearances alone, to differentiate diphtheria, pseudo-diphtheria and follicular tonsillitis. That this cannot be satisfactorily done is demonstrated by experience. We occasionally find a diphtheric paraly-

*Read before the Section on Obstetrics and Pediatrics, Annual Meeting, Oklahoma State Medical Association, Oklahoma City, June 22, 23, 24, 1926.

sis when the diagnosis had been a tonsillitis or a mild sore throat. A nasal discharge may indicate the characteristic infection when there is nothing in the appearance of the throat to point to the correct diagnosis. The only safe rule of practice is to give the patient the benefit of the doubt.

Membranous croup is diphtheria and should be treated as such. Other infecting organisms may occasionally cause the same symptoms, but as a working rule there will be few mistakes made in adhering to this practice. A croup that cannot be diagnosed as spasmodic laryngitis beyond the possibility of a doubt, demands antitoxin immediately and in sufficient doses. In such cases delays are dangerous.

The use of diphtheria antitoxin is delayed by some from fear of sensitizing the patient. Some do not give the prophylactic dose when there has been a direct exposure to infection, but prefer to await the development of the disease, before giving the antitoxin.

In our early experiences we gave little thought to the anaphylactic reaction. We probably observed some of the milder types, but they attracted little attention. The severe reaction is fortunately not common, but when it does appear its onset is sudden and its symptoms are alarming. I reported one such case to this association several years ago. Only a small per cent of those to whom antitoxin has been administered are sensitized. However, before using it, careful inquiry should be made and if any of the serums have been previously given, or if there is any other indication that there may be a sensitization, the antitoxin should be administered cautiously.

Because of the increasing number of antitoxic serums which are coming into general use, it is essential to remember that horse serum sensitization may be induced by any of the antitoxins which contain it, and that it is specific for that particular serum whether it is in the diphtheritic or any other antitoxic serum.

It may be worth while to proceed with care when the toxin antitoxin has been used for immunization. In the early studies of anaphylaxis it was observed that guinea pigs were readily sensitized by the most minute doses of serum.

It has been reported that toxin antitoxin will occasionally induce a hyper-

sensitiveness. We may confidently expect that both the antitoxin and the toxin antitoxin will be so modified that the danger of sensitization will be eliminated.

Then the immunization of young children will be more systematically practiced, and they will be protected from diphtheria and membranous croup until they have passed the age of greatest danger.

In a period of time within my memory greater progress has been made in the diagnosis and treatment of diphtheria than was made in all the preceeding centuries.

The knowledge of prophylaxis enables us in most cases to confine it to very narrow limits.

Perhaps in coming years diphtheria will be known only as a chapter in the history of medical progress.

Discussion: HARRY BREESE, M.D., HENRY-ETTA.

The essayist wisely left the discussion of the different types, diagnosis, and the pathology to the text books. However, it was about 1883 and 1884 that Klebs and Loeffler, at about the same time, were doing research work to teach the world that a certain kind of bacillus was the enemy to fight.

Since we have a specific, if properly used at the right time, it is then our duty to keep discussing the subject from time to time until the public will co-operate with our efforts to immunize the possibility of infection or contagion.

Therefore, we should keep in mind to the public, the Schick test, toxin-antitoxin, and carriers. Thousands of tests by the Schick method have proved that about two-thirds are immune, and that the toxin-antitoxin treatment or vaccination will immunize the balance.

The co-operation of the public with the doctors in some localities has almost stamped out diphtheria by their practicing the Schick and toxin-antitoxin method. On this encouraging point I will quote a few results obtained in the references: SOUTHERN MEDICAL JOURNAL, July, 1920, Dr. Sidbury of Wilmington, N. C., describes how this loathsome and dreaded disease was practically wiped out. As far back as May, 1916, Dovie Murrie Couie, Ann Harbor, Michigan, published AMERICAN JOURNAL DISEASES OF CHILDREN

with elaborate statistics, the great value of these preventative measures. And, he remarked that families usually run the same tests. If one child was positive or negative the rest of the family usually tested the same.

Of course, it is evident that it is possible, with the co-operation of the school officers and parents, to win the victories already mentioned. But, the fact remains, that those below school age give the largest percent of positives to the Schick test. And, by proper legislation for co-operation, this alarming disease could be stamped out.

Many children of school age, as well as adults, are carriers, and, if they are rendered sterile or immune, the chances for infection to the younger children are nil.

The adult carrier remains to be considered, and, especially for the last six years, they have been given many different kinds of treatments in order to render them safe to mingle with the public.

A carrier used to be considered a carrier, and nothing more. But, it is now known that he may, at any time, be diagnosed with a clinical case of diphtheria. Therefore, the importance of our advocacy to the public and the law-makers, the necessity of following up all known convalescent cases of diphtheria in order to be sure that they do not remain carriers. Of course, it is evident that one may be a carrier, who has never been diagnosed clinically. But, if all others were eliminated, there would not be much demand for antitoxin.

Some carriers have peculiar manifestations. Dr. M. Gerson, in the *MEDICAL INTERPRETER*, number 1, states, from Berlin, paralysis of various kinds, of the eye muscles, of the muscles of deglutition, of one arm or both legs, for which he could not discover any apparent cause. He found that nine of these cases were bacillus diphtheria carriers. He frequently swabbed out the nose with tincture of iodine and used peroxide of hydrogen for a gargle. All these cases were cured after they had been freed of the bacilli. Though he used, at the end of six weeks, twelve to fifteen thousand units of serum for three consecutive days. At first, this serum aggravated the paralytic symptoms but they soon disappeared entirely. Diphtheria, in the form of ulcers, may exist for months,

the scrotum, ear, vulva and thighs, especially. T. A. Gray and J. B. Meyer, U. S. Naval Hospital, Mare Island, *JOURNAL OF INFECTIOUS DISEASES*, April 1921, had an outbreak of diphtheria. From five hundred forty-four Schick tests, seventy-four were positive. They were given one thousand units of antitoxin, and later, the toxin-antitoxin vaccination of six hundred eighty persons showed one hundred sixty-two were carriers. These authors treated ninety carriers with mercurochrome, one half, one, and two percent strengths. Eighty-eight of the ninety were made carrier-free by nineteen treatments. Here is a good place to say that toxin-antitoxin is slow and that it takes four to six weeks for its action to immunize. But, after immunization has taken place, it lasts from four years to a life-time.

There is a difference between the convalescing positive throat and the true diphtheria carrier. The latter is harder to render inert. Fifty cases, reported from the French literature in number four of the *MEDICAL INTERPRETER*, explain how those carriers were freed from possible danger by hot-air currents from a common electrical drying apparatus through a metal ferrule 5 cm. in length. This could be moved in any direction. Ten to fifteen minutes with intermissions each treatment for three to five days effected a cure. As I understand it, there is no law to isolate carriers. However, if a carrier proves to be sufficiently virulent to cause contagion, the State Superintendent of Health can bring pressure to bear for quarantine. It is estimated that New York has twenty-five to thirty thousand carriers.

There is scarcely any excuse for argument on treatment. All progressive doctors agree that antitoxin should be given, with but few clinical exceptions, intramuscularly or intravenously. Five thousand units intravenously is equal to about twenty thousand subcutaneously. And, if the diagnosis is made early, not waiting twenty-four hours for laboratory report, one dose intravenously of three thousand units will often effect a cure.

Since the writer has lost but one case of this dreadful disease, it is obvious that he has not treated a very large number. However, he believes that case should have been saved by his following up the French advice in treating the paralysis. My diag-

nosis the first visit for this ten-year-old girl was a three-days pharyngeal membrane. My having no records of this case, is why I cannot be positively exact as to dosage and time. I will say that there was one intravenous five-thousand units dose and two of the same amount, intramuscularly, over a period of three days. At the end of five days, she was discharged practically well. Her appetite was good; dined at the family table seven days, no fever, but she still had each tonsil covered with a thick membrane. And, in about ten days after I thought she was out of danger, a progressive paraplegia began from the feet and terminated life in about three days.

This was a country Italian family and allowed the child to exercise more than directed, but her doctor should have kept up, perhaps, at this time, subcutaneously, the antitoxin and throat treatments till that membrane sloughed, and especially after the paralysis began, pushed the treatment. But, I feel that the follow up treatment mentioned would have prevented the paralysis and thereby saved a life.

SUPREME COURT UPHOLDS AMERICAN DRUGS

A decision of the highest importance to every physician, pharmacist, drug manufacturer and, in fact, every user of drugs in the United States was rendered by the Supreme Court of the United States on October 11, 1926, when this highest tribunal of the Nation declared that the Chemical Foundation has been acting legally and properly in the purchase of the foreign drug and chemical patents, during the War and licensing American Manufacturers to produce these essential substances in this country.

The sale of the German patents to the Chemical Foundation took place during President Wilson's administration and had, without doubt, a distinct influence upon the outcome of the War, because this transfer permitted American concerns to begin at once the production of various drugs and chemicals which had, theretofore, been made only in Germany, and whose importation ceased with our entry into the war.

President Harding, apparently laboring under some misapprehension as to the purposes and functions of the Chemical Foundation directed that suit be brought by the Government to set aside the sale of these patents to the Foundation.

The case was first tried in the Federal District Court of Wilmington, Del., and resulted,

after weeks of evidence taking, in a finding against the Government on all points.

The case was appealed to the Circuit Court, which upheld the decision of the District Court in every particular.

A final appeal carried the question to the Supreme Court of the United States, where evidence was heard more than a year ago. The long delay in rendering a decision has afforded time for mature consideration. The Court has decided unanimously that the sale to the Chemical Foundation was valid and legal and that the Foundation has made no improper use of the powers which it thus acquired.

This decision is a momentous one for everyone who has anything to do with drugs and chemicals in any way whatever.

To the physician it means that he will have a steady regular supply of reliable drugs, of American manufacturers, which can never again be upset or cut off by the vicissitudes of war. The same considerations apply to the pharmacists. Among the vitally necessary drugs affected may be mentioned the arsphenamines, cinchophen, barbital, the flavines, procaine and a host of others.

To the drug manufacturer, who has invested thousands of dollars in apparatus for the manufacture of drugs and chemicals under the Foundation's licenses, it means relief from a certain degree of anxiety (though the outcome of the case could scarcely have been in doubt) and a tremendous inspiration to further investigations looking to the production of more and better drugs and chemicals for America.

To the nation at large, it means that reliable medicines will continue to be sold at reasonable prices; and, more or less indirectly, that the dye industry of America which is now in a flourishing condition, thanks to the Chemical Foundation, will be available for government uses should we become involved in another war.

Nor are medicine and pharmacy the only lines of endeavor affected by this momentous decision. The steel and packing industry and many others will be vastly benefited by the freedom of chemical investigation and activity which is now assured them.

Word has been received from the Dermatological Research Laboratories that they appreciate the patronage given to the D.R.L. Arsphenamines by physicians in this State.

These products have been advertised in this Journal for some time and it is gratifying to know that the readers have taken cognizance of the support of the advertisers. Also, that they are aware of the quality, safety and therapeutic efficiency of the Dermatological remedies for syphilis, which were the first to be made in this country and supplied to the physicians of America when the world war was in progress.

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Local news of possible interest to the medical profession, notes on removals, changes in address, birth, deaths and weddings will be gratefully received.

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EDITORIAL

MEETING THE CANCER PROBLEMS.

Apparently no advance worth while in the prevention or control of cancer, other than those already appreciated, were made or proposed by the recent Mohonk Conference on Cancer. This conference was attended by representatives from every great organization engaged in the prevention, control and treatment of cancer, as well as many of the world's most brilliant medical and surgical minds, whose work naturally places them also in commanding positions to observe the ravages of cancer

and by such observations authorized them to make pertinent suggestions for further vigilance and energy if we are to even hold what little gains have been made.

Resolutions, two only, were adopted: one proposing an international federation to further similar meetings as this conference and publication in at least three languages an index and abstracts of all papers on cancer which appeared anywhere in the world. The other resolution, and one of importance to the average physician so often bombarded by "New Cancer Cures," was the adoption of a statement of facts and opinions upon which campaigns against cancer should be conducted. The resolution, in substance, is as follows:

Causation is not completely understood, but it may be accepted that it is not to be looked upon as contagious or infectious.

Cancer itself is not hereditary, although a certain predisposition or susceptibility is apparently transmissible through inheritance. This does not signify that because one's parents, parent or other member of the family suffered from cancer, cancer will necessarily appear in other persons of the same or succeeding generations.

The control of cancer, so far as understood at the present time, depends upon the employment of personal hygiene and certain preventative and curative measures, the success of which depends, in turn, upon the intelligent cooperation of patient and physician.

Persons who have cancer must apply to competent physicians at a sufficiently early stage in the disease in order to have a fair chance of cure. This applies to all forms of cancer. In some forms early treatment affords the only possibility of cure.

Cancer in some parts of the body can be discovered in a very early stage, and if these cases are treated properly the prospects for a permanent cure are good.

The cure of cancer depends upon discovering the growth before it has done irreparable injury to a vital part of the body and before it has spread to other parts. Therefore, efforts should be made to improve the methods of diagnosis in these various locations and the treatment of the cancers so discovered.

The public must be taught the earliest signals of cancer which can be recognized by persons without a special knowledge of

the subject, and induced to seek competent medical attention when any of these indications are believed to be present.

Practitioners of medicine must keep abreast of the latest advances in the knowledge of cancer in order to diagnose as many as possible of the cases of cancer which come to them.

Surgeons and radiologists must make constant progress in the refined method of technic which are necessary for the diagnosis and treatment not only of ordinary cases but of the more obscure and difficult ones.

There is much that medical men can do in the prevention of cancer, in the detection of early cases, in the referring of patients to institutions and physicians who can make the proper diagnosis and apply proper treatment, when the physicians themselves are unable to accomplish these results. The more efficient the family doctor is, the more ready he is to share responsibility with a specialist.

Dentists can help in the control of cancer by informing themselves about the advances in the knowledge of the causes of cancer, especially with relation to the irritations produced by imperfect teeth and improperly fitting dental plates. They can also help by referring cases of cancer which they discover to physicians skilled in the treatment of cancer in this location. It may be doubted whether all dentists fully realize the help which can be obtained from X-ray photographs in revealing not only the state of the teeth but the condition of the bone surrounding them.

Medical students should be instructed in cancer by the aid of the actual demonstrations of cancer patients, and this to a sufficient extent to give them a good working knowledge of the subject.

The most reliable forms of treatment, and, in fact, the only ones thus far justified by experience and observation, depend upon surgery, radium and X-rays.

Emphasis should be placed upon the value of the dissemination of the definite, useful and practical knowledge about cancer, and this knowledge should not be hidden or confused by what is merely theoretical and experimental.

Efforts toward the control of cancer should be made in two principal directions: (1) the promotion of research in order to increase existing knowledge of the subject, and (2) the practical employ-

ment of the information which is at hand. Even with our present knowledge many lives could be saved which are sacrificed by unnecessary delay.

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Editorial Notes—Personal and General

DR. J. W. CREWS, Stringtown, has moved to Adamson.

DR. T. A. RHODES, Cherokee, has moved to Titusville, Florida.

DR. O. A. KIRBY, Marietta, made a trip to Michigan recently.

DR. W. A. FUQUA, Grandfield, recently attended the Mayo Clinics.

DR. H. B. AMES, Alva, is doing post-graduate work at Tulane University.

DR. T. A. HARTGRAVES, Okmulgee, has moved to the Atlas Life Building, Tulsa.

DR. H. L. RAINS, Okmulgee, spent his vacation in October taking in the Mayo Clinics.

DR. A. R. HOLMES, Henryetta, recently attended a family reunion at St. Joseph, Mo.

DR. A. H. TAYLOR, Guthrie, suffered a broken arm last month, while cranking his Ford car.

DR. HUGH D. SITES, U. S. Veterans Hospital, Muskogee, has been transferred to the Marine Hospital No. 13, Mobile, Alabama.

DR. A. L. GUTHRIE, Oklahoma City, recently took several weeks' bronchoscopic work with Dr. Chevalier Jackson at Philadelphia.

DR. WILLIS K. WEST, Oklahoma City, was called to Shreveport, La., recently, by the death of Mrs. West's father, L. K. McGuffin.

COMANCHE COUNTY MEDICAL SOCIETY met October 18th, at Lawton, Dr. James F. Cooper, New York, being the principal speaker, his subject being "Birth Control Methods."

DR. and MRS. J. W. FRANCISCO, Enid, announce the marriage of their daughter, Eva, to Mr. Harry Moreland on October 16th, at Enid. The couple will be at home in Ponca City.

ROGERS COUNTY MEDICAL SOCIETY met October 25th, at the Memorial Hospital, Claremore; the program: Dr. Charles D. Johnson, Tulsa, "Intestinal Obstruction", and Dr. Benjamin Morgan, Tulsa, "Anaesthesia".

McINTOSH COUNTY MEDICAL SOCIETY met October 19th, at Checotah, with the following program: Lecture on Tuberculosis, with film exhibit, by Dr. E. Levy, U. S. Veterans Hospital, Muskogee, and a report of cases.

DR. F. B. ERWIN, Wellston, has moved to the Medical Arts Building, Oklahoma City.

DR. and MRS. J. T. BOND, Tahlequah, recently visited their son at Anderson, Missouri.

DR. H. A. LILE, Cherokee, visited some of the hospitals in Chicago and St. Louis, recently.

DR. JOSEPH T. PHELPS, El Reno, has moved to the Medical Arts Building, Houston, Texas.

DR. and MRS. A. L. BLESCH, Oklahoma City, are making a month's trip to Canada and other Northern points.

DR. FRED PRIESTLEY, Frederick, is undergoing medical treatment at the Baptist Memorial Hospital at Memphis.

DR. J. I. HOLLINGSWORTH, Stroud, has moved to Waurika, and is associated with Dr. D. B. Collins in the Waurika Hospital.

DR. W. P. FITE, Muskogee, attended the Clinical Congress of American College of Surgeons at Montreal in October, and stopped at Boston to visit his brother, Dr. E. H. Fite, at the Boston General Hospital.

DR. CLAUDE A. THOMPSON, Muskogee, will attend the annual meeting of state officers and editors of the various component state associations of the American Medical Association, at Chicago, November 19 and 20.

DOCTOR GEORGE W. JOBE

Dr. G. W. Jobe, for many years a practitioner at Wagoner, died September 3rd, the immediate cause of death being hemorrhage of the stomach, he had suffered from stomach trouble for several years.

Born at Yellville, Arkansas, September 30, 1872, after attending the common schools of that state, he graduated from Marion-Sims Medical College in April, 1897, later doing special work at Vanderbilt. He practiced for a time in the Hawaiian Islands, serving as Acting Assistant Surgeon, Public Health and Marine Hospital Service. He served on one of the Federal Medical Examining Boards and the Pension Board in Indian Territory days, and during that term of service endeared himself to his many professional associates. Dr. Jobe was a man of serene, judicial mind and possessed of an unusually high degree of personal courage. These attributes made him best of friends and admirers. He was ever ready to perform his mission of help and mercy, regarding financial gain as a secondary matter. A member of the old Indian Territory medical organization, he became a member of his county and state organizations on amalgamation and was a member until his death. He is survived by a wife, mother and three sisters. Interment was made at Wagoner under the auspices of the Methodist Church and the Masonic order.

DOCTOR FRED F. FULTON

Dr. Fred Fulton, Oklahoma City, died September 15th, at a Memphis Hospital after an attack of indigestion. He had been in ill health for some time. Born at Cedar Vale, Arkansas, December 28, 1883, he received his preliminary education in Hot Springs, after which he graduated from the Memphis Hospital Medical School in 1906. He later attended the New York Postgraduate, after which he located in Hot Springs, practicing there in 1906-7 and 8, after which he located in Oklahoma City in 1909, in association with his brother, Dr. George Fulton, until his death.

Dr. Fulton was a 32nd degree Mason, Shriner and Elk, and a member of the Methodist Church. Interment was made at Fairlawn Cemetery, Oklahoma City, under the auspices of the Methodist Church and the Masonic order.

EYE, EAR, NOSE and THROAT

Edited by Jas. C. Braswell, M. D.
726 Mayo Bldg., Tulsa

Recent Mechanical Injuries to the Eyes; Their Examination and Management., Jackson, S.: Northwest Med., 1926, xxxv, 138.

Jackson calls attention to the fact that the effects of contusions of the eyeball may be unrecognized in a superficial examination because external evidence of grave internal lesions may be absent, and that there may be no evidence of serious trouble at the first ophthalmic examination because such injuries as fracture of the orbit do not immediately affect the eyes. Contusions may cause cataract without rupture of the capsule, but the opacity may not be noted for months. The examination following a contusion should therefore include inspection, palpation for changes in tension, and X-ray examination for fractures and foreign bodies.

Perforating injuries may have few external signs upon which the diagnosis may be made. Small wounds close quickly, many parts do not bleed, and the tension may be restored in a few hours. Two lacerations may occur from the same accident, as when a shot passes through one side and out the other. The nature of the missile and the direction from which it came should be determined. The presence or absence of a foreign body must be established definitely. Because of the long exposure made so frequently in roentgen ray examinations, foreign bodies may not be detected by the X-ray if they are very small. As a rule all foreign bodies in the eyeball should be removed as soon as possible. The conditions under which a departure from this rule may be considered are very rare.

The Operations for Glaucoma., Durr, S. A.: Am. J. Ophth., 1926, 3 s. ix, 174.

This report was a thesis submitted for the degree of M. S. in Ophthalmology at the University of Pennsylvania. The better known operations

for glaucoma are compared as to their value in different types of cases, and an attempt is made to determine the best operation for each type of glaucoma. The conclusions are based upon a survey of the literature.

Iridectomy, trephining, iridotaxis, and cyclo-dialysis are fully covered, while the Lagrange operation, peripheral iridotomy, iridencleisis, and cyclectomy are discussed briefly. The use of adrenalin in glaucoma as compared to posterior sclerotomy is reviewed.

The conclusions drawn from fifty-eight original articles are as follows:

1. No one operation can be used in all cases.
2. In acute glaucoma the procedure of choice is iridectomy, with the use of adrenalin or a preliminary posterior sclerotomy, if needed. Trephining or iridotaxis is permissible.
3. The Elliott trephine should be used in chronic non-congestive glaucoma, especially with contracted fields. Iridotaxis may be done. Cyclo-dialysis may be tried first, the trephine being reserved for resistant cases.
4. Iridectomy should be performed in glaucoma due to swelling of the lens.
5. Buphthalmos is best combated by trephining or repeated posterior sclerotomies.
6. Cyclodialysis should be used in glaucoma due to disease of the retinal vessels and may be done in the cases of patients who have chronic conjunctivitis.
7. Adrenalin has been found of value in ophthalmoscopic examination, as a therapeutic agent, and an aid in operation.

Intra-Orbital Anaesthesia., Icove., M. D.: Ophth., 1926, 3 s. ix, 260.

Icove states that intra-orbital anaesthesia would be employed more frequently in ophthalmic surgery if the technique were more generally known and the safety of the procedure more generally recognized.

The temporal floor of the orbit contains no important structures. The nerves to be blocked are the long and short ciliary nerves, which are best reached just anterior to the ciliary ganglion from which the short ciliary nerves arise. The long ciliary nerves are branches of the nasociliary nerves. Conduction anaesthesia of the cornea, sclera, and iris is induced by the perineural injection of the anaesthetic.

Before the operation is begun, time must be allowed for the absorption of the anaesthetic. The author has found 4 per cent novocain and adrenalin solution most satisfactory. The amount used varies with the procedure. A 2-c. cm. syringe with a 22-gauge needle 5 cm. long is employed. The needle is inserted through the skin, at the lower outer border of the orbit and passed up and in to avoid the orbital floor, between the external and inferior rectus. The entire amount of the anaesthetic is injected into the eye at once.

The operation may be performed from one-half to one hour later. The latter interval is indicated in cases of acute glaucoma. One thousand injections have been made of amounts of anaesthetic ranging from $\frac{1}{2}$ to 4 c. cm. without toxic effects. A few of the patients have experienced nausea as the result of nervousness.

In the one case in which an intra-orbital hemorrhage occurred, the operation was postponed five days and then performed without intra-orbital anaesthesia. Intra-ocular tension is increased from 5 to 10 mm. by the increase in the volume of the orbital contents.

The technique for the various operations is as follows: Cataract: $\frac{1}{2}$ c. cm. given intra-orbitally, a modified Van Lint injection of the lids, several drops of cocaine in the cul-de-sac. Glaucoma: In acute cases, from $\frac{1}{2}$ to 3 c. cm. given intra-orbitally. Enucleation: An intra-orbital injection of 3 or 4 c. cm. plus a sub-conjunctival injection and delay of the operation for three quarters of an hour.

The method is employed also with the use of Shahan's thermophore and for sub-conjunctival injections of mercury, cyanide of mercury, sclerotomy, evisceration, and the removal of foreign bodies. In operations for squint, the pain from traction on the muscles is not relieved and there may be a temporary paresis of the external and inferior recti which disturbs the relations.

Puncture of the Maxillary Sinus., Ruskin, S. L.: Laryngoscope, 1926, xxxvi, 119.

Hyperplastic Maxillary Sinusitis., Mithoefer, W.: Laryngoscope, 1926, xxxvi, 137.

Ruskin states that while puncture of the maxillary sinus is a most important aid in the diagnosis and treatment of maxillary sinusitis, it is frequently avoided because of the difficulties and complications incident to the usual technique. In order to proceed properly, a thorough knowledge of the anatomy of the maxillary sinus and lateral wall of the nose is essential. Ruskin describes the anatomy in some detail and illustrates his description by photographs and schematic drawings.

Attention is directed to the antrum mucosa which is thin and loosely connected with the bone by a thin submucosa. "Dilated veins, when they occur, are most usually found on the roof of the antrum or on the medial wall. This point is not sufficiently considered in puncture of the antrum. If a heavy blunt trocar is forced through the bone of the inferior meatus, it can lift the mucosa off the antrum wall instead of piercing it. The fluid or air is then injected into the submucosa, causing the complications reported incident to this procedure."

Puncture through the inferior meatus is preferred.

Ruskin calls attention to a special antrum needle which he described in the Laryngoscope for February, 1924, together with a technique for its use. This needle was constructed to counteract the dangers and difficulties of antrum puncture and in a series of several hundred antrum punctures was found safe and easy to use. It may be employed also for bacteriological study of the antrum contents.

In conclusion, Ruskin emphasizes the importance of the role played by maxillary sinusitis in the production of nasal obstruction, chronic laryngitis, and bronchitis in children.

Mithoefer cites the fact that while it has been known for many years that nasal polypi are an extension of a primary disease in the antrum, hyperplasia of the antrum without extension of polypi into the nose has not been recognized very often. He describes a form of hyperplastic dis-

ease of the antrum in which there are few if any pathological changes in the nasal mucosa, namely, primary hyperplastic maxillary sinusitis.

Hyperplastic maxillary sinusitis is of the following four types:

Antrum hyperplasia with extension of polyp into the nose, combined with suppuration.

Antrum hyperplasia with extension of numerous polypi or a solitary polyp into the nose, but without a purulent discharge.

Hyperplasia of the antrum without extension of polypi into the nose and with or without mild pathological changes in the nasal mucous membrane and the other sinuses (primary hyperplastic maxillary sinusitis).

Hyperplasia of the recesses of the antrum only (recess hyperplasia).

Following a discussion of the pathology and symptoms, the author draws the following conclusions:

1. Maxillary sinus hyperplasia was always found when an extensive nasal polyposis was present.

2. Hyperplasia of the antrum may be present many years without causing symptoms referable to the antrum.

3. The failure of the removal of pathological changes in the nose to give relief should direct attention to the antrum.

4. Hyperplastic ethmoiditis of a mild type may be associated with gross hyperplastic changes in the maxillary sinuses.

5. The roentgenogram will be found of aid in arriving at a conclusion as to the advisability of exploring the antrum.

6. An exploratory opening is often the only means of determining the presence or absence of hyperplastic changes within the cavity of the antrum.

7. Hyperplastic changes in the antrum are present more often than has been hitherto suspected.

8. If the possibility of antrum hyperplasia were always borne in mind and the cavity investigated before the performance of an intranasal sinus operation, the results of intranasal sinus surgery would be more satisfactory.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M. D.
717 North Robinson St., Oklahoma City

Epiphysitis—Editorial, Am. Jour. Roentgenol., XV, 446, May, 1926.

This editorial is mentioned here, not because it contains any new additions to our knowledge of the subject of epiphysitis, but because it calls attention to the valuable abstracts that are appearing in subsequent numbers of the American Journal of Roentgenology, of recent articles collected from all sources regarding this condition. According to the Editor, epiphysitis is a true disease entity, of unknown origin, but distinct from tuberculosis, syphilis and rachitis. Among the diseases classified under the head of epiphysitis, or osteochondritis, he includes: (1) osteochondritis deformans juvenilis (Legg-Clave-Perthes disease), (2) epiphysitis of the tibial tubercle (Os-good-Schlatter's disease), (3) epiphysitis of the tarsal scaphoid (Kohler's disease), (4) epiph-

ysitis of the head of the second metatarsal (also called Kohler's disease), (5) vertebral epiphysitis, (6) epiphysitis of the os calcis, (7) epiphysitis of the olecranon, (8) epiphysitis of the various epiphyses of the ilium, (9) malacia of the semilunar bone, (10) osteochondritis dissecans of Konig.

Acute Knee Joint Injuries—C. J. McGuire, Jr., Ann. Surg., LXXXIII, 686, May, 1926.

This is a report of cases occurring in Bellevue Hospital during the past five years. They are classified as follows:

1. Synovial membrane-acute synovitis and suppurative synovitis. One suppurative case cleared up completely in eight days after three aspirations. Willem's treatment was tried in nine cases; five obtained full function, one partial function, one complete ankylosis, two amputations.

2. Ligaments—with thirty degree flexion and sufficient period of immobilization the crucial ligaments will heal with good function. He does not consider the Hey-Groves operation justifiable. Suture of the internal lateral ligament, with fascial reinforcement if necessary, is successful. Suture of the quadriceps tendon and ligamentum patellae gave good results.

3. Intra-articular fibrocartilage. Fifteen operated cases are reported. Eleven cases gave normal function, two did not report, but evidently were without disability when last seen, one developed postoperative phlebitis and developed an unstable joint, one complained of persistent pain.

4. Fractured patella. These were all operated upon if there was any separation. Twenty-five cases reported. One developed suppurative arthritis. Seventeen were operated upon; of these, fifteen cases followed up and reported complete function, one, seen only once, was doing well, one did not report.

5. Intercondylar eminence—four cases. Treated in thirty degree flexion for six weeks. One perfect function. Three complained of recurrent synovitis and pain on standing.

This is a most interesting article and a table of all the cases showing treatment and end-results is given.

Concerning the Etiology of Perthes' Disease and Koehler's Metatarsal-Phalangeal Disease.—W. Brill, Arch. f. Orthopaed und. Unfallchir., XXIV, 1, January, 1926.

The author reports a family in which for six generations there occurred a disease in the hips among its members. It is a case of inherited constitutional anomaly. The primary symptoms in childhood are: stiffness in the hips, limitation of abduction and rotation with persistency of normal expansion and flexion. Pain is not complained of, as a rule. Around the fifteenth year there appeared the symptoms of limitation, limping, aching, which in previous years has been but of mild character and frequently overlooked. Up to the age of twenty-five, the condition gradually improves; it becomes stationary at the age of forty-five or fifty. The X-rays demonstrate process which seem to originate within the bone substance proper. These findings speak against an arthritis deformans juvenilis but lean more, ra-

diologically and clinically, towards the group of Legg-Perthes'. Analogous processes as in the hips are found in the heads of the first and second metatarsals and on the femoral condyles. In several instances, the hypoplastic constitution. It is difficult to point to a definite date of onset; neither can it be stated with certainty in what period the disease becomes aggravated. No emboli nor osteomyelitis be mentioned as causative factors. Disease of internal secretion may easily be suggested and accepted as a probability. The final results of all the cases were arthritis deformans in later years.

TUBERCULOSIS

Edited by L. J. Moorman, M.D.
912 Medical Arts Bldg., Oklahoma City

Tuberculosis—The Fifth Conference of the International Union Against Tuberculosis was in session September 20th to October 2nd, 1926, in Washington, D. C. Immediately following in succession came the Twenty-first Meeting of the American Sanatorium Association and the Twenty-second Meeting of the National Tuberculosis Association.

In the International Conference it was gratifying to note the universal interest in the fight against tuberculosis and recognition accorded the United States because of the splendid results achieved.

Among the notable foreign delegates appearing on the program were the following: Professor Gaetano Ronzoni, of the University of Milan, Italy; Sir Henry Gauvain, Superintendent Lord Mayor Treloar Cripples Hospital and College, Alton, England; Dr. Edourd Rist, Co-Director Laennec Hospital, Paris, France; Dr. B. Weill-Halle, University of Paris, Paris, France; Dr. Frederich Neufeld, Director Koch Institute, Berlin, Germany; Professor Hans Christian Jacobaeus, Medico-Surgical Institute, Stockholm, Sweden; Dr. Marc N. Jaquerod, University Lausanne, Leysin, Switzerland; Professor Frederich Muller, University Munich, Munich, Germany; Professor Vittorio Ascoli, University of Rome, Italy; Professor Leon Bernard, University of Paris, Paris, France; Dr. Julius de Daranyi, Budapest University, Budapest, Hungary; Dr. F. Jessen, Davos-Platz, Switzerland; Dr. P. C. Varrier-Jones, Cambridge, England; Dr. Vladimir Cepulic, Xogreb, Jugoslavia; Dr. Ernest Loewenstein, University of Vienna, Vienna, Austria; Dr. Hugo Selter, University of Bonn, Bonn, Germany; Col. S. Lyle Cummins, University of Wales, Cardiff, Wales.

One of the subjects demanding a great deal of discussion in these meetings was the question as to whether or not manifest tuberculosis in the adult is of endogenous or exogenous origin. The consensus of opinion, in recent years, has been in favor of endogenous re-infection from latent foci, acquired through childhood infection. Judging from this discussion, the pendulum is gradually swinging back and many students are ready to believe that exogenous re-infection may account for a certain percentage of the adult cases of active pulmonary tuberculosis.

It was generally agreed that there should be no change in our prophylactic methods. In spite of all the recent claims for new therapeutic measures rest was emphasized as the mainstay

in the treatment of all forms of tuberculosis. Artificial pneumothorax and extrapleural thoracoplasty received due recognition. Sunlight and artificial light were freely discussed and admitted to be of great value in the treatment of tuberculosis of the bones, joints and glands and all forms of superficial tuberculosis. It is also of proven value in the treatment of intestinal tuberculosis. It has been shown that exposure of the body to moving air independent of sunlight, brings about marked muscular growth and development.

An interesting feature of the National Meeting was the presentation of the first Trudeau Medal to Dr. Theobald Smith. An inspiring service commemorating a great clinician and rewarding a great scientist.

UROLOGY and SYPHILOLOGY

Edited by Rex Bolend, B.S., M.D.
1010 Medical Arts Building, Oklahoma City.

Pharmacology of Arsenic—The truth is that little is known of the actual pharmacology of arsenic, outside of clinical demonstration, and in the minds of many physicians there is considerable confusion as to whether the value of salvarsan lies in its actual spirocheticidal ability or in its assistance in building up the resisting power of the blood, thus enabling the body to effectually overcome and neutralize the invading organisms. This confusion dates back to the period when salvarsan was first commercialized, and is largely due to the misleading propaganda put forward at that time by certain producers. Because of this confusion many practitioners fail to distinguish between a tonic dose of an arsenical derivative and the spirocheticidal dosage. As Kiefer has recently put it: "We must always bear in mind the fact, as originally pointed out by Ehrlich himself, that the action of salvarsan on the spirachetes is not that of a direct spirocheticide, but that a third factor existing in the body fluids is necessary. This appears to be a fixing agent comparable in a general way to the action of complement (which is non-specific), but which acts to complete the antigen antibody combination."

Iodine in the Treatment for the Syphilitic—The value of iodine as a therapeutic agent for the treatment of the syphilitic has long been recognized, but the exact pharmacologic action is still somewhat disputed, particularly of the effect on the circulatory system. Some claim it is a depressant while others claim it becomes a stimulant.

The greatest consideration of iodine is the rapid elimination by the body secretions. Cushny claim 65-80 per cent of the iodide appears in the urine during the first twenty-four hours. Sollmann says iodides are found in ten to fifteen minutes after ingestion, the maximum reached in two hours.

This of course is a serious drawback in anti-leptic treatment and any form of iodine which will be retained in the syphilitic tissue longer will be of more value.

Elemental iodine seems to answer these qualifications, since in contact with the organic substances and body fluids it is changed into iodate salts. These require only a very low acidity for

decomposing again releasing iodine and this acting as a catolytic agent. According to the U. S. Dispensatory this process takes the following course: "While organic matter is being oxidized by the oxygen set free from the decomposing iodate, the iodine slowly reforms iodates by the decomposition of water . The iodate so reformed, in contact with another portion of putrescible matter yields further proportions of free oxygen and iodine to act as before, and so on." The ultimate fate of elemental iodine, no doubt, is its elimination in the urine, in the form of iodides.

Tuberculosis of Urinary Tract, Abstracted J. A. M. A., September 25, 1926—Ruenberg analyzes 126 cases with nephrectomy and eighty-seven without, 1900-1922. In 55 per cent there had been symptoms from the urinary apparatus for more than a year before the tuberculous nature was suspected. The onset was insidious in 70 per cent; the first symptom was disturbance in micturition in 74 per cent; the pain in the lumbar region in 16.3 per cent, and hematuria in 5.8 per cent; in two cases syuria, and in three emaciation. The bladder was found normal in 33 per cent of these presenting "cystitis" symptoms as the first manifestation. Local measures against this "cystitis" are distinctly dangerous besides being useless. The urine reaction was acid in 96 per cent of the cases of renal tuberculosis; albuminuria and pyuria were practically constant. The irregular outlines of the pus cells, in contrast to pus from other infections, aided in the diagnosis (Colcumbini). In fifteen cases no bacteria could

be found in the acid, pus-containing urine. He denies that this is pathognomonic for renal tuberculosis. On the other hand, tubercle bacilli can be eliminated through the sound kidney. He reports a case that confirms this, both kidneys eliminating tubercle bacilli, but since removal of one kidney, the other has been functioning apparently perfectly. Fully 80 per cent of the nephrectomized were restored to health. One patient refused to allow removal of the kidney and she has spontaneously recovered—an instance of autonephrectomy. The disease has progressed in all the other cases without surgical intervention. In conclusion he warns to continue general treatment after the nephrectomy, as these patients are still tuberculous after removal of the renal focus.

The Spleen in Syphilis—The frequency with which the spleen is involved in a general syphilitic infection—most often without manifesting any symptoms whatever—has been emphasized by Wile, although at the same time he pointed out that anemia occurring early in the course of the infection might be generally constitutional rather than splenic in origin. Many of Eason's cases of secondary syphilis showed a severe degree of oligocythemia, as well as poikilocytosis, anisocytosis polychromasia and punctate basoblasts, and in one case, eosinophil and neutrophil myelocytes were found in considerable numbers. In all the cases the color index was definitely above 1, with red-cell count of 1,000,000 and about 20 per cent hemoglobin, with grave anemia.

REPORT OF EXAMINATION FOR LICENSES TO PRACTICE MEDICINE

OKLAHOMA STATE BOARD OF MEDICAL EXAMINERS

Examination held at Senate Chamber, State Capitol, Oklahoma City, September 14th and 15th, 1926; number of subjects examined in, 12; total number of questions, 120; percentage required to pass, 75; written examination; no practical test; total number examined, 5; number passed, 5. The following applicants passed:

Name	Year of Birth	Place of Birth	School of Graduation	Year of Graduation	Home Address or Previous Location
Camp, Will	1882	Doyle, Tenn.	Vanderbilt	1918	Tulsa, Okla.
Cooke, Charles Harold	1896	Hennessey, Okla.	Kansas Univ.	1924	Beggs, Okla.
Daves, John Thomas	1893	Baskerville, Va.	Maryland Univ.	1917	Danville, Va.
Marshall, Hal Ellsworth	1890	Elk City, Kan.	Kansas Univ.	1925	Blackwell, Okla.
Oldham, Ira Brown, Jr.	1900	Kirksville, Ky.	Tennessee Univ.	1925	Muskogee, Okla.
Rogers, Hugh Earl	1891	Milford, Texas	Texas Univ.	1917	Tulsa, Okla.
Sigler, Richard Roberts	1893	New Salisbury, Indiana	Louisville Univ.	1924	Wellington, Kan.
(Reichmann) Snyder, Ruth Catherine	1898	Rockport, Ind.	Michigan Univ.	1925	Rockport, Ind.
Winbigler, Bryce Rex	1878	Gerlan, Ill.	Illinois Univ.	1904	Aledo, Ill.
Shepard, Samuel Charlton	1899	Denton, Texas	Tulane Med.	1924	Tulsa, Okla.
Copeland, Carlos	1871	Houston Mo.	Barnes Med.	1906	Monette, Mo.
Hiner Bert Cecil	1879	Nebraska	K. C. Eclec. Med.	1912	Stilwell, Okla.
Graham, Hugh Cornelius	1896	North Carolina	Rush Med. Col.	1926	Tulsa, Okla.
Hawkins, Eugene Wallace	1881	Georgia	Univ. of South Sewanee	1905	Anadarko, Okla.
Miller, Bradford Walter	1902	Omaha, Neb.	Neb. Col. Med.	1926	Oklahoma City,
Pickard, John Copeland	1900	Wabash, Ind.	Oklahoma Univ.	1926	Oklahoma City,
Warterfield Floyd Edward		Arkansas	Arkansas Univ.	1899	Muskogee, Okla.
Craddock, Clinton Cullen	1865		Meharry Med.	1895	St. Louis Mo.
Talley, Charles Newton	1899	Petersburg, Tenn.	Oklahoma Univ.	1923	Marlow, Okla.

BUREAU OF MATERNITY AND INFANCY

STATE DEPARTMENT OF PUBLIC HEALTH OF OKLAHOMA

LUCILE SPIRE BLACHLY, M.D., Director

During the past year nurses from the Bureau of Maternity and Infancy have either conducted alone or in co-operation with the teachers of Home Economics in the six Teacher Training Colleges twelve credit courses. Usually the courses consisted of eighteen (18) hours in theory and eighteen (18) hours of demonstrations. At the close of one of these combined courses the teacher of Home Economics asked the following questions:

(a) Of what value has the course in Child-Care been to you?

(b) Do you think Child-Care should be included in the public school curriculum?

The class as a unit answered the latter question in the affirmative.

Following are a few excerpts taken from the examination papers:

"A long time ago the mother would keep it a secret when she became pregnant but in 'Child Care, we are taught how important a physical examination is."

"An idea I have had regarding the embarrassment of going to a physician so early in pregnancy has been completely changed. Now, I realize that the mother should be proud that she is physically fit to reproduce, and should have this examination early to give her child the best possible chance to survive."

"I am sure I have derived more practical benefit from my course in 'Child Care' than from any other college course."

"I've been benefitted more by this course than any I have ever taken in college. It is more practical."

"The way the subject deals with the parts of the body is told in a manner that is not at all embarrassing but interesting and makes you want to know more."

"It has pictured marriage, home and motherhood to me in a more beautiful way than I have ever before seen it."

"This course will cause girls to realize what a wonderful business homemaking and motherhood is. It will lessen their desire for money making and commercial business and enable them to turn more to caring for homes and rearing children."

"I think one of the greatest advantages of the course is that it causes young girls to really appreciate babies and to look upon motherhood as a gift of God and not merely as an unwanted hardship."

"Place this subject in our curriculum and provide for a clean, competent lady to teach our girls to see the honor of motherhood, by teaching them how to prepare and care for themselves and baby before and after birth."

"I know of an instance where the mother never talked to her girl about such an important question, and when the girl needed advice she did not go to the right person to get it just because she did not know to whom she could go to confide in."

"It gives the inspiration to be the right kind of mother, and to raise better, healthier children. Another important reason is that teachers can reach the poor mothers out in their districts and give them their wealth of information which will be gladly received if the teachers are kind in their way of presenting it to them."

"This course in Child Care has so prepared me that I will be a more efficient and happy mother. I also have a greater desire to become a mother. It has lessened my fear of motherhood and fired my ambition to rear children so that they will have happy, wholesome, strongly developed minds and bodies."

"One objection that parents might make to adding this subject to the course of study may be 'that these girls would talk it over among themselves, and that they didn't need to know this yet, that they would learn from experience soon enough.' This is the very thing that we want done. These girls that might talk it over vulgarly would do so anyway and could not give nearly so much information as if they really knew."

"Many of our young girls marry while attending high school or soon after and many will be our mothers of tomorrow, little knowing or even giving a thought to what it will mean to them. They seem to walk into the sea of motherhood blindfolded, helpless little things. Why are they so ignorant of such things? It seems as if all are too modest or don't care to teach them the great importance of motherhood. What they know has come to them from vulgar sources, and when they learn they are to become mothers, they think of it as being a disgrace and not an honor which will mean more to them than all the riches in the world."

"By having this course in all our schools, the girls will get in a clean, wholesome way the things which they should know, for the safety of themselves as well as the next generation. If we do not offer this course to the girls they will find out in the wrong way."

"I have received many benefits from this course. Never did I know the vast importance of prenatal care as I have learned from this course. It has really been one of the most interesting and enjoyable courses I have studied. It is a course which no girl should finish school without having. But not only pleasure have I received, but things well worth knowing, remembering and practicing."

"I could never just sit down and write all the things which I have received from the course but I will give the most important ones. Little did I know about a baby in any stage. Never had I realized just how much depended on the mother having good health. The nurse made her demonstrations so plain that no one could fail to understand them."

"By reading the books I learned that a girl should be careful in choosing her mate and the reasons why. Little thought has been given to this subject heretofore, but now I shall stop and consider things before taking such a serious step."

If all the girls have found the course to mean as much to them as it has to me, there will be lots of homes happier and more babies live if the lessons of the course are followed."

"The introduction of 'Child-Care' in our educational institutions is one of the best means of reaching the mothers and fathers of our future generations. This information comes at the time when their minds are open to conviction, just the time to stamp upon them the importance of physical and mental well being. When they are once convinced of these needs their co-operation is secured without which no far reaching and permanent good could be hoped for."

"I think 'Child-Care' has been the most practical course I have taken in college. I feel that when I have the privilege of being a mother, I shall not be frightened or at a loss what to do, but will be confident that all shall be well and I shall know how to care for myself and baby. I have the desire and determination to raise healthy, happy children which can be done only if I keep my own body in that condition. This I intend by all means to do."

"Child-Care is not a study of dry nature, but is intensely interesting and is so closely associated with all of us that I think every girl should make a study of it."

"From this course I have learned to appreciate my mother and all mothers more."

"Every normal girl builds aircastles of the future, when she will have a wonderful husband and a happy home. No home is as supremely happy as it could be if there is not a child in that home to center their love upon, to labor for, rear, and educate to the best of their ability."

"Then again, many mothers do not tell their girls what they should know. Many times they themselves do not know, and it is very necessary that the girl who expects to be a mother sometime, know how to care for herself, and give her baby a good birth. She owes this to herself, to her baby and to humanity."

"Under ordinary circumstances, the modern girl does not eat the proper food. If such a course were given to all girls, they would certainly have a better physical development and when the time came for them to be mothers, they would be better fitted for the test which is before them."

"I have come to realize that it is not such a dreaded responsibility to have the care of children. Many people look upon children as something horrible and something to be avoided. I think the course in 'Child-Care' gives you a much better appreciation of children and of the mother's duty to her children."

"Before I began the study of 'Child-Care' I had the old superstitious feeling that many people have not gotten away from. I thought that children should not be raised by a 'doctor book.' I thought mothers ought to know more about their own children than some doctor or nurse who had never seen them but a few times in their lives. I did not realize that these doctors and nurses had made a special study of mothers and babies all their lives, and that after all people are all alike in many ways. I had many superstitious ideas such as 'marking the baby', the baby was born with hives, the baby had to be sick so much of the time, etc."

BOOK REVIEWS

"Practice of Physio-Therapy" by C. M. Sampson.

—Over six hundred pages, one hundred forty-six original illustrations. Price, silk cloth binding, with gold stamping, ten dollars, 1926. Publishers, C. V. Mosby Co., St. Louis, Mo.

In the treatment of diseases, during the past few years, Physio-therapy has made rapid progress. No one has done more to advance its cause than Dr. Sampson, a physician of wonderful experience in this particular field. His latest book is well written, easily understood, and where indicated, suitable illustrations are used.

The text is divided into three parts:

Part 1. "Physics and Technic" contains twenty-three chapters. It reviews the different modalities used in the practice of Physio-therapy.

Part 2. "Clinical Application" contains seven chapters. In these, the author reviews case records, and results, and indicates most clearly where Physio-therapy is applicable.

Part 3. "General Considerations" contains four chapters dealing with troubles met in practice, adapting Physio-therapy to general practice or Hospitals, and the defining of technical terms used in the text.

It is a most valuable text book on a most important subject and should be on the desk of the practicing physician and surgeon.

THE SURGICAL CLINICS OF NORTH AMERICA—(Issued serially, one number every other month). Volume VI, Number III (Chicago Clinic Number—August, 1926); 324 pages with 101 illustrations. Per Clinic year (February, 1926, to December, 1926). Paper, \$12.00; cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

THE SURGICAL CLINICS OF NORTH AMERICA—(Issued serially, one number every other month). Volume VI, Number IV (Mayo Clinic Number—October, 1926); 274 pages with 91 illustrations. Per Clinic year (February, 1926, to December, 1926). Paper, \$12.00; cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

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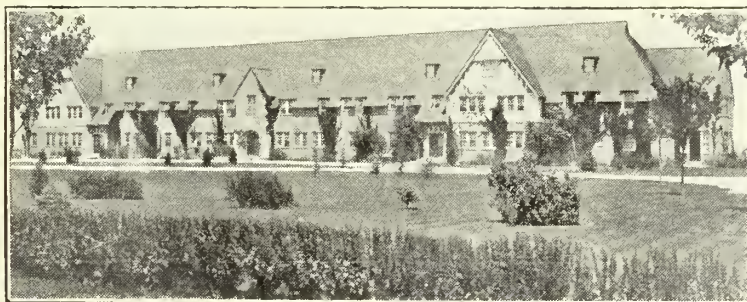
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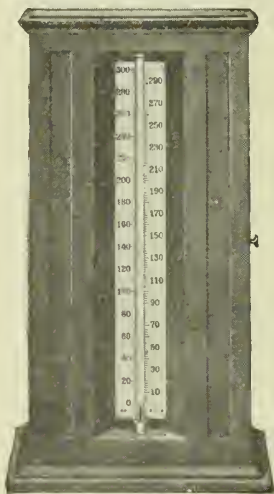
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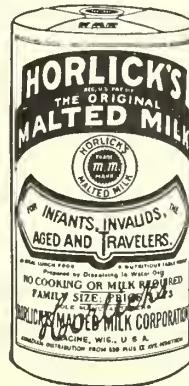
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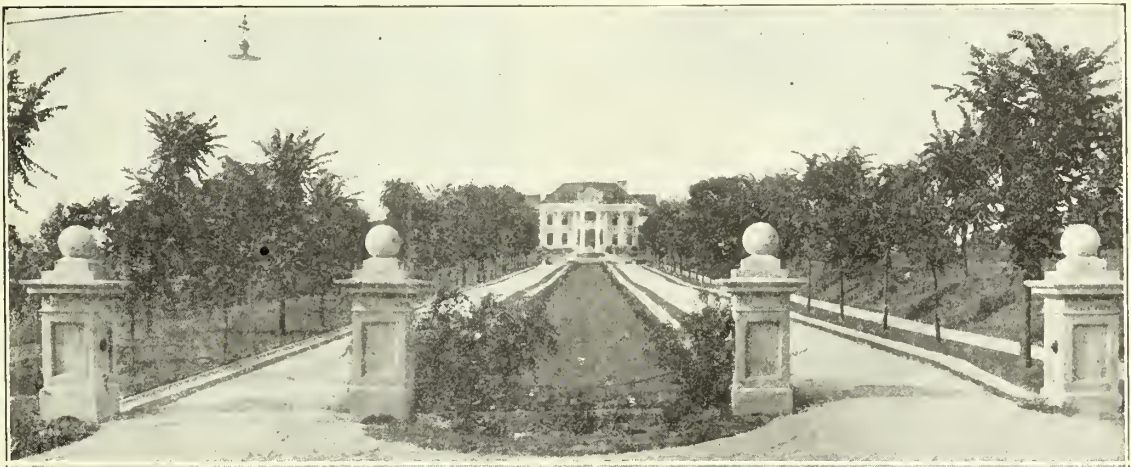
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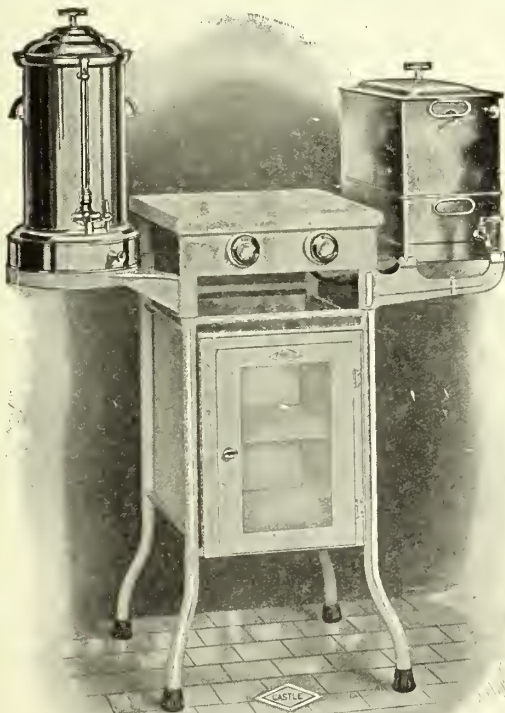
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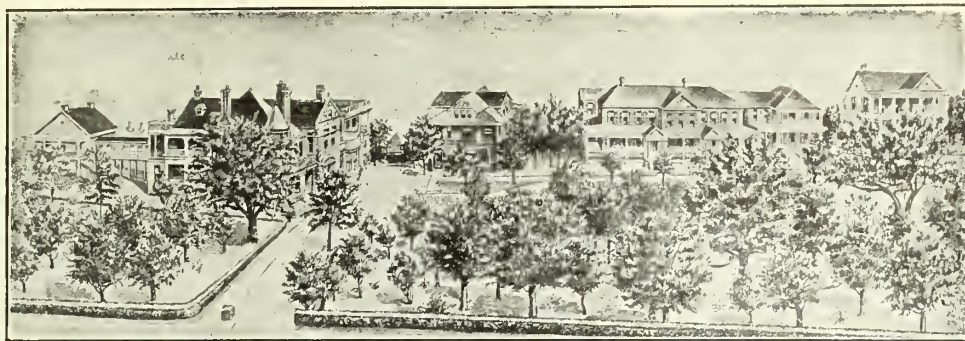
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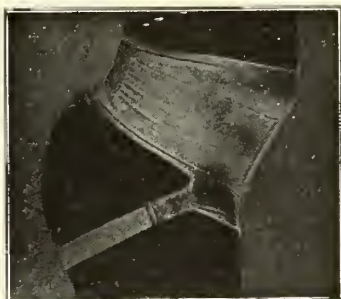
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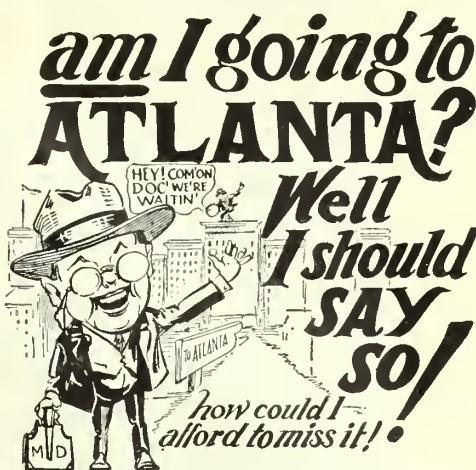
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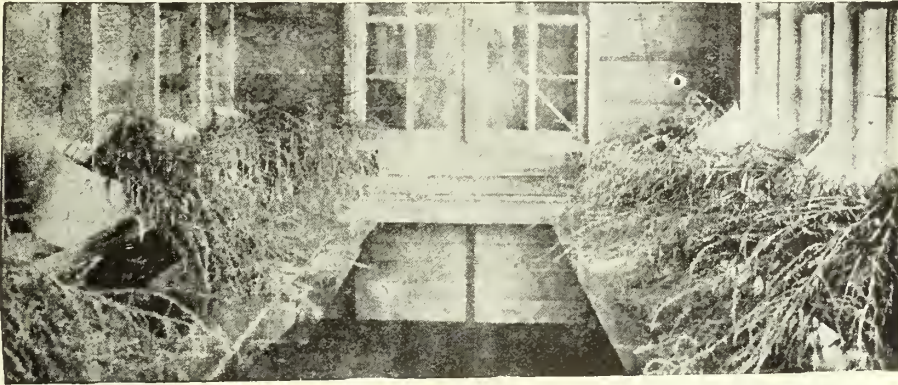
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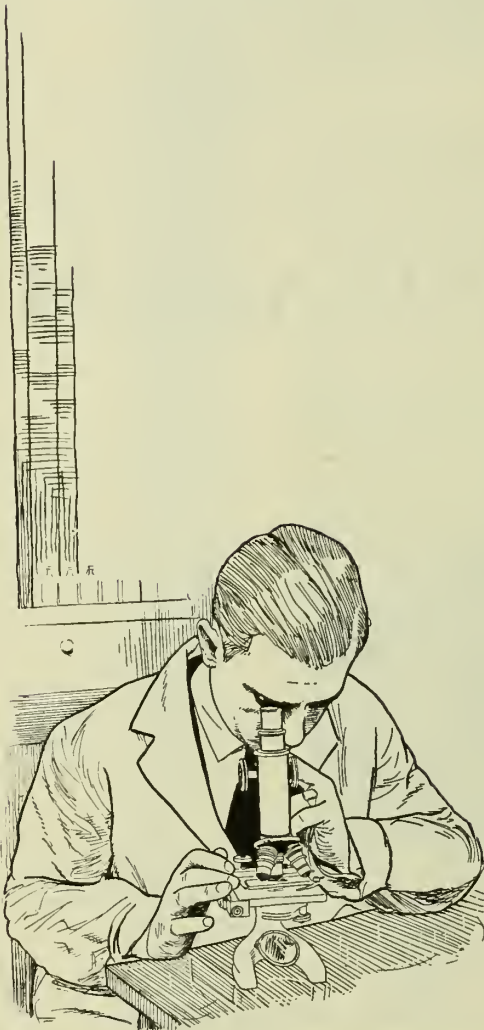


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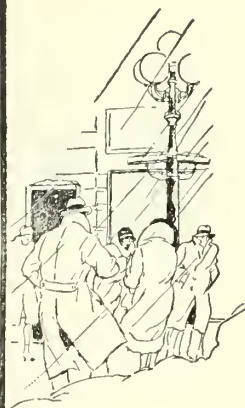


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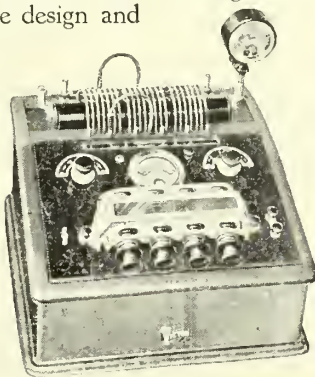
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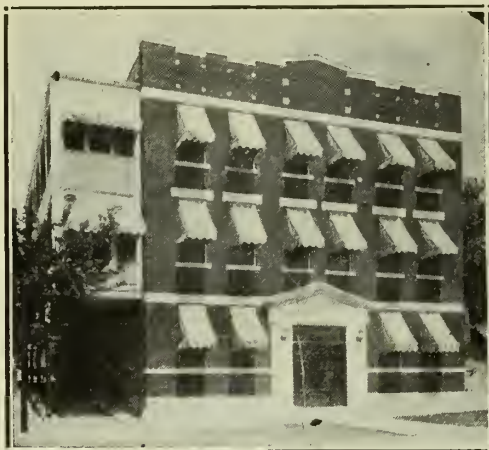
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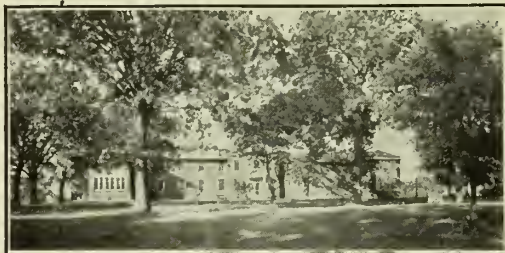
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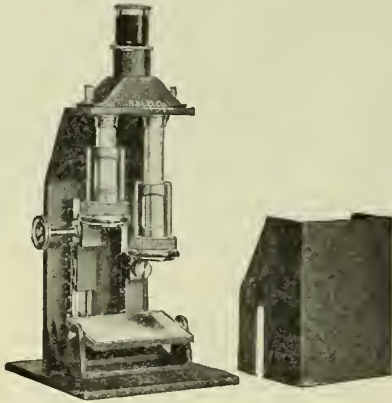
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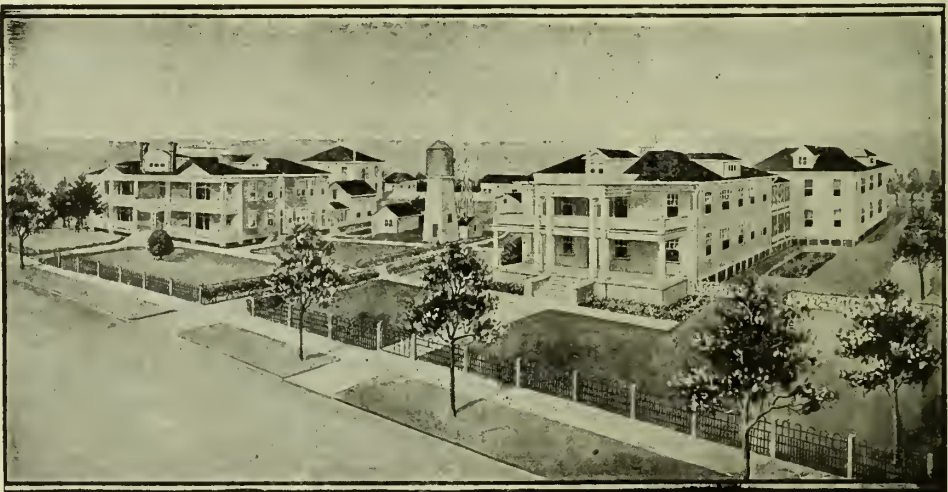
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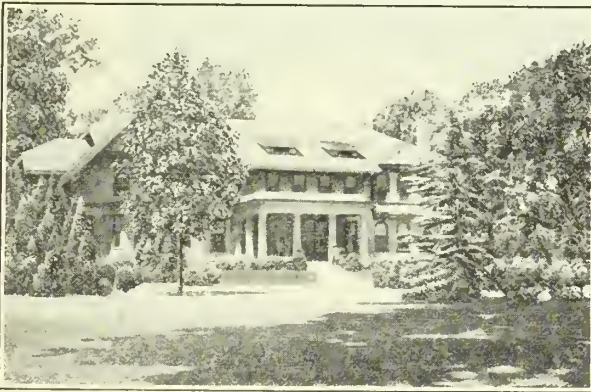
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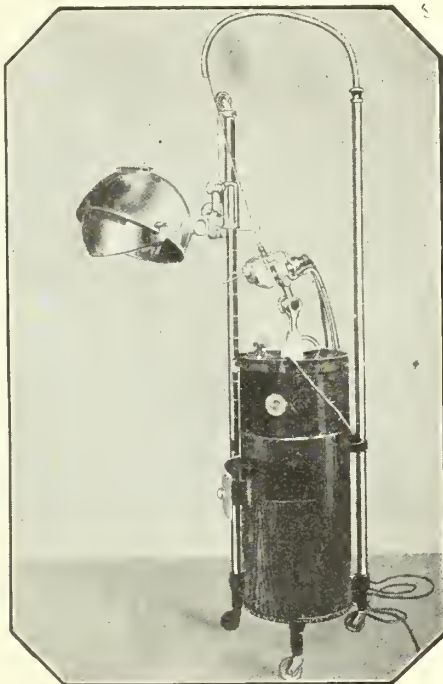
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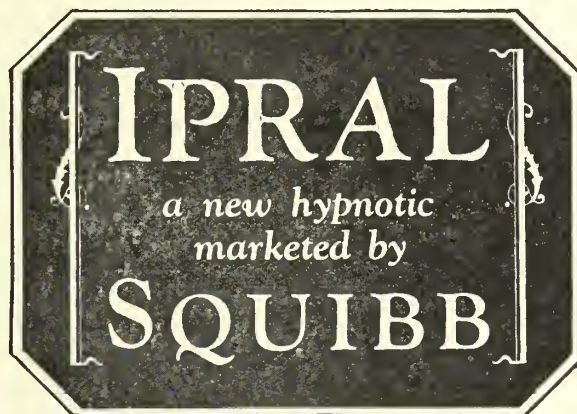
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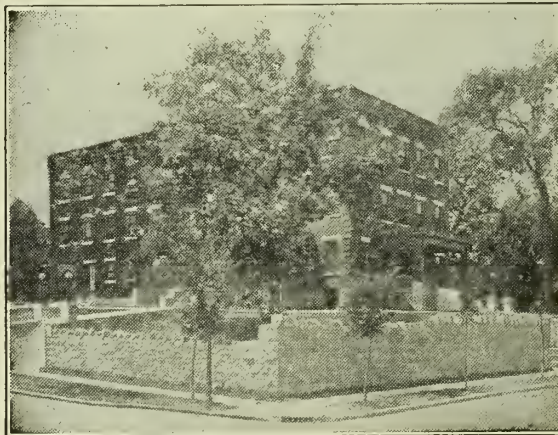
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THE JOURNAL

OF THE
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VOLUME XIX

MUSKOGEE, OKLA., DECEMBER, 1926

NUMBER 12

THE GALL BLADDER IN RELATION TO RIGHT SIDED PAIN*

McLAIN ROGERS, M.D., F.A.C.S.
CLINTON

Few conditions in the abdomen present more actual or potential harm to health and life than the gall-bladder, and in order to recognize such conditions necessitates the study of disease of the gall-bladder in its relation to pain and other disease in the right side.

The diagnosis of gall bladder affections is not always easy. The reflex symptoms in acute cholecystitis often cloud the clinical picture. Even in the light of all our present knowledge it is at times hard to recognize early disease of the gall-bladder at the operating table as the normal blue appearance and thin walls may not present such changes at this stage as to make diagnosis easy even to those well trained.

With all the reflex complications and variations which characterize gall-bladder disease we do have some symptoms in common and upon which we may rely. Thorough physical examination and careful history should make the diagnosis clear in the majority of cases.

Examination for rigidity should include both sides of abdomen for comparison. Murphy's sign of placing fingers over gall bladder region in doubtful cases while patient takes deep breath may elicit symptoms not otherwise evidenced, but tenderness in this region is not attributable to the gall bladder alone. A duodenal ulcer, hemorrhage in head of pancreas, a high appendix and other conditions may give symptoms which cannot be differentiated. Cysts of pancreas while generally presenting more centrally may present and simulate the redundant or wandering gall bladder with pain quite characteristic to gall bladder disease.

Peck classifies gall bladder pain in four general types:

Type 1. Typical biliary colic, severe, intermittent with complete freedom from pain in intervals, irregular in time of occurrence with occasional slight jaundice after attack.

Type 2. Acute gall bladder distention with occlusion of cystic duct; constant severe and increasing pain and local tenderness often with fever and leucocytosis; some cases go on to acute cholecystitis, empyema, rupture or gangrene.

Type 3. Chronic variable pain with gaseous indigestion without jaundice or fever which may last for years before gall bladder is suspected.

Type 4. The classical picture of stone in the common bile duct with intermittent pain, fever, chills and jaundice.

Although we are dealing with the gall bladder in its relation to right sided pain we should remember that the early symptoms of gall bladder disease, as Moynihan pointed out a quarter of a century ago, are not pain or tenderness in gall bladder and liver, nor other classical symptoms as we usually apply them, but a feeling of epigastric fullness, weight or distress after eating and relieved by belching or vomiting; heartburn and acid eructations are included with histories, of pain at right costal margin and radiating to back, chilly sensations, vomiting of bile is common and pylorospasm is frequent.

The differentiation of gall bladder disease from duodenal or gastric ulcer will at times present a difficult problem. More than once I have encountered cases where previous perforation or slow spill of a duodenal ulcer had produced an inflammation leaving dense adhesions plastering the small end of the stomach onto gall bladder, traveling down ascending colon and involving tissues of the pelvis. In the latter class of cases a painstaking history should throw much light and aid us vitally yet with the appendix now involved the cecum and ascending colon more or

*Read before the Section on Surgery and Gynecology, Annual Meeting, Oklahoma State Medical Association, Oklahoma City, June 22, 23, 24, 1926.

less fixed or immobilized by adhesions the symptomatology is varying and complex.

While gastric symptoms may predominate early in many gall bladder diseases, the large majority of cases will soon present symptoms pointing to gall bladder and liver. The train of symptoms will now be peculiar to the gall bladder.

The symptoms of pain, gas, vomiting and belching are common to both, but are very different when studied as a group. In gall bladder disease the attack is of short duration, generally from a few minutes to a number of hours followed by an intermission of complete relief lasting for a period of from hours to months, provided the case is not complicated. Both the onset and subsidence of the attack is abrupt, the onset followed by constant boring, severe and terrific pain. This pain may approach that of gastric perforation, but will subside without the shock and the patient gets splendid relief. Gall bladder pain is more often epigastric, but may radiate to back. There appears to be no relation of the pain to the taking of food.

After pointing to the irregularity of gallstone attacks and their characteristics let us contrast ulcer symptoms coming regularly each day from two to five hours after meals, patient relieved or eased by taking food, alkalies, drinks, lavage and vomiting. Vomiting in ulcer is generally clear, sour or salty while in gall bladder disease it is bitter, yellow or a greenish yellow. Vomiting does not often occur early in either. If history of onset began early in life to that extent it would point favorably to ulcer, if late in life to gall bladder disease. Stomach analysis with high acidity points to ulcer but is too variable to greatly aid in differentiation. Gall bladder disease is not chronic without previous acute attacks, while in peptic ulcer as well as appendicitis, a perforation may be the first indication of its presence.

While the hardest problem in point of differentiating epigastric pain is between duodenal ulcer and chronic pancreatitis, pancreatitis is so closely associated with and inter-dependent upon cholecystitis as to make differential diagnosis here extremely hard at times. We should bear in mind the fact that chronic pancreatitis associated with jaundice occurs in younger subjects than those in whom we are called upon to differentiate cancer of pancreas and that this type of pain and other symp-

toms are vague with periods of remission and disappearing jaundice. Also that the symptoms of carcinoma of pancreas which closely simulate gall bladder disease are constant and progressive. Neither by pain nor other subjective symptoms may cancer of gall bladder be diagnosed. To those of us less sophisticated, the epigastric pain caused by adhesions from peritonitis or post operative, though the obstructive bowel loop be in the pelvis, may closely simulate acute cholecystitis.

That most ruthless and persistent offender of the abdominal organs (the appendix) which assumes the role of cheating most any abdominal viscera of its symptomatology at times adds much to our difficulties in solving the problems of gall bladder disease and right sided pain. A diseased high retrocolic appendix may closely simulate cholecystitis. I have in three cases observed the appendix, while not retrocolic, in contact with the gall bladder. The gastric disturbance of acute and chronic appendicitis closely simulate cholecystitis. The early epigastric pain of appendicitis before localization and until the right iliac region is responsive on palpation will often make diagnosis uncertain.

In our zeal and attempt at the niceties of differentiation we must keep in mind the co-existence of both appendicitis and cholecystitis. It is not so uncommon in a patient past forty years with a gangrenous appendix to find an acute cholecystitis and in the more violent infections hemorrhage into the gall bladder. In the latter class of cases with a sudden onset a refined diagnosis is very difficult. It is my personal observation that in the more chronic type of co-existing disease of the appendix and gall bladder, the gall bladder symptoms predominate.

In the differentiation of pain of acute gall bladder inflammation from pyelitis, acute hematogenous infection of right kidney, sub-acute inflammation or slow spill of perforated duodenal ulcer and inflammatory condition of ureter, is frequently most trying, and often we must, as we always should, develop our history to completeness and invoke all our resourcefulness of palpation.

The discussion of instrumentative diagnosis is not within the sphere of this paper, and we mention it for the purpose only of impressing the necessity of getting

first the best evidence by history and physical examination.

Kidney pain does not so often simulate cholecystitis as the appendix. Stone in kidney produces pain which generally radiates to the groin, loin, thigh or testicle. The pain of the wandering or dislodged kidney with torsion of vessels and ureter often produce epigastric pain simulating gall bladder disease but this is generally relieved by posture and manual replacement of the kidney which generally clarifies diagnosis.

To differentiate pain of the wandering gall bladder and wandering kidney is at times baffling, but if we keep in mind the anatomical mechanism of the two organs the task is less remote. The movement of the wandering kidney is inward and downward with more resistance in attempt to dislodge it inward and upward, while with the wandering gall bladder the excursion may be outward or inward, it does not descend with ease and can be pushed inward and upward to a degree which will generally make diagnosis fairly certain.

The pain of sub-phrenic abscess may, in the early stage simulate cholecystitis but with the oncoming symptoms of fever, sweats, dyspnea and cough our physical signs become more indicative of our trouble.

In 1923 we operated two cases of peritonitis which were a complication of influenza and in both cases the peritonitis was apparently produced by extension from the chest. Both had inflammatory lymph deposit over the liver and upon diaphragm on right side. In one case the history of pain and other symptoms closely simulated cholecystitis.

The epigastric pain produced by the gastric crises of syphilis must be kept in mind to avoid mistaking such pain as a symptom in cholecystitis as well as peptic ulcer.

Finally may we learn to better construe the pain in related right sided disease, develop better histories, get symptoms in order of their occurrence, for after all there will be plenty of surprises and disappointments in dealing with right sided pain to humble the best of us.

RIGHT ABDOMINAL PAIN "KIDNEY"*

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Pain as an aid to diagnosis is a factor that must always be given careful consideration. It is a relative thing and its severity will depend not only on the condition causing it, but on the individual afflicted. The hyposensitive type and the hypersensitive type must be recognized in estimating its severity and importance. In one, a severe pain will be endured with but little outcry, while a highly neurotic individual suffering great agony becomes an amplifier in acute lesions, and disturbs the whole neighborhood by his complaints in chronic diseases. It is easy to be deceived in the one because of the mildness of his complaints, and in the other we have learned to be so suspicious of the pain complained of that occasionally pain of real significance may be overlooked.

Right-sided abdominal pain may be, and often is, due to lesions of the kidney. Mistakes in diagnosis are frequently made, resulting in useless operations on the appendix, gall bladder and stomach, either because of atypical symptoms being wrongly interpreted or because of hasty and careless investigations leading to unsound conclusions. An accurate history, with the physical findings and the laboratory evidence carefully weighed, will point to the right direction in most cases.

Kidney and ureteral pain are fairly typical when backed by other evidences available. Severe kidney pain is divided into two classes, the inflammatory type and the non-inflammatory type. The inflammatory type is aching in character and is increased by palpation and pressure. Inflammatory pain is increased more by deep breathing than by motion; while in the non-inflammatory type the pain is more severe and paroxysmal in character and disappears more suddenly than that due to inflammation.

Pain in the kidney region, with local tenderness, indicates kidney involvement, the referred pain being felt in the lower iliac and suprapubic region, while pain in the penis, scrotum, and perineum indicates ureteral involvement. The pain of movable kidney, Dietl's Crises and renal

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inflammation are all fairly characteristic yet the pain of movable kidney is easily confused with appendiceal pain. Dr. Kelley has shown us how to solve the question between the pain of appendicitis and the pain of movable kidney; in brief, by attempting to reproduce the exact pain in the kidney by injecting its pelvis, at the same time determining its capacity. Pain as a result of a high lying retrocecal appendix which is inflamed, is a most difficult condition to differentiate from kidney or ureteral pain, especially if the appendix is adherent to the ureter or an inflammatory mass has developed adjacent to the kidney or over the ureter. One might be forgiven for a mistaken diagnosis under such circumstances.

In perinephritis the pain is located in the lumbar region and may be referred to the knee or lower thigh or along the distribution of the intercostal nerves. Pain in the lumbar region, associated with well defined tenderness and edema plus the constitutional symptoms expected, means perinephritis. Suppurating conditions of the kidney itself may be associated with tenderness in front. Pain with areas of tenderness and dullness in the injured side forms one of the most striking symptoms of renal injury, being present in all cases except where obscured by shock or other grave and painful injuries. Add to these blood in the urine and the diagnosis becomes certain.

Pain is present in the terminal stages of tuberculosis of the kidney due to intermittent blocking of the ureter and is always associated with frequency and painful urination. In the silent renal tuberculosis the diagnosis is often missed until the kidney is almost destroyed.

Pain is present in about seventy-five percent of the cases of pyelitis, radiating from the back to the thigh and perineum or upward to the epigastrium and shoulder. The pain of renal calculus is fairly characteristic, but will vary, depending on its type and the associated infection; paroxysmal when the stone is too large to enter the ureter, and constant when infection is present or the stone becomes lodged. It radiates to the crest of the ilium, anterior abdominal wall, groin and testicle. In complete ureteral obstruction the pain gradually subsides, due to the cessation of urinary secretion. When the ureter is inflamed pain is elicited at the brim of the pelvis by deep palpation. Tumors of any type which block the urin-

ary flow may produce pain. Hematuria with or without renal colic is the most constant symptom of malignant tumors and is, according to Isreal, found in seventy percent of the cases as one of the earliest symptoms.

Nephralgia, essential hematuria or angioneurosis of the kidneys, occurring as a result of rheumatic or gouty diathesis, with marked recurrent hyperacidity of the urine and severe neuralgic pains, are not infrequent and belong with the renal crises of locomotor ataxia to the domain of medicine. This condition is reported rather frequently and should be borne in mind even though no pathological explanation has been found for it.

These are only some of the characteristics of conditions about the kidney and ureter that produce right-sided pain which may be confused with abdominal pathology. A consideration of these, with the added urinary findings, weighed against the knowledge every man should have who does surgery, of the abdominal and nervous pathology that may produce right-sided abdominal pain, will result in a fairly accurate diagnosis and fewer of the lamentable experiences that too many patients have had.

The cystoscope, X-ray and laboratory used intelligently and persistently should act as a safeguard and render our diagnosis much more accurate. Too many men fail to take advantage of these instruments of precision, and thus we continue to have good reasons for this symposium. Cases too numerous to be cited have occurred where mistakes have been made. Fortunately they are fewer today than in the past, due to the knowledge on the part of the abdominal surgeons that a differential diagnosis should be carefully considered, and to the advances made by the urologist in the diagnosis of surgical conditions in his field.

RIGHT SIDE PAIN AND ITS RELATION TO APPENDICITIS*

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When Dr. Fenger was teaching us, I have heard him remark frequently, "For Damm that Right Side." I am to consider that right side only as it concerns

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us in appendicitis. We all know the appendix is usually located in the right lower quadrant of the abdomen, but is not infrequently found in the other parts of the abdominal cavity; the upper right quadrant; the left lower quadrant; the pelvic cavity; hernial sac, etc.

In my own mind and in taking histories of patients, I do not think of appendicitis as a right side pain. Right side pain due to an appendix inflammation does not occur until the peritoneal coat is involved. In other words as long as the irritation or inflammation is confined to the mucus and muscular coats, the pain occurs in the region of the umbilicus, gastric area, or the left side of the abdomen. As the disease progresses, involving the peritoneal coat, the pain becomes a right side pain. In taking the history of a patient complaining of a pain in the right side, and positively affirmed that the pain started in the right side, I feel that this is one point against a diagnosis of appendicitis.

Let us take up classical cases of Acute Appendicitis. Our symptoms are:

- 1st. Abdominal pain (in the region of the umbilicus or above or to the left of the umbilicus.)
- 2nd. Nausea (often vomiting.)

In the beginning of an attack, this is about all the symptoms or signs. Later, we may have developed tenderness on palpation over the appendix, right rectus somewhat more rigid than the left, some rise in temperature and blood count will show an increase in leukocytes. After the peritoneum becomes involved there is a right side pain, if the appendix is located in the right side; but if the appendix is located in the pelvis, this sign is not present.

The appendix located in the pelvis and becoming inflamed is more often overlooked or misdiagnosed than any other. It may be close to the right ureter and pain may be referred to the bladder, right testicle, or it may simulate pyosalpinx. The retrocecal type where the appendix is high up under the liver is often misdiagnosed. This type cannot be diagnosed with much accuracy, unless the history of the first few hours of the attack are considered carefully. When abscess formation takes place in these cases, it may simulate a kidney abscess, gall bladder obstruction, etc.

In some cases where the appendix contains concretions there may be a low grade

of peritonitis involvement locally, and we have a right side pain. This may continue for months or years. The concretion may slowly erode its way through the wall of the appendix and the first symptom of an exacerbation of the condition is a violent right side pain with peritonitis spreading.

The Chronic Appendix with the low grade peritonitis, (that prolifitory type) may cause a right side pain. Usually with these two conditions we have a history of acute attacks of appendicitis which recur at irregular intervals. If a history of recurrent attacks is not obtainable, it is almost impossible to make a diagnosis of chronic appendicitis and if symptoms are justifiable for an exploratory laparotomy, it is much the better plan to make the diagnosis after exploration.

ILEUS, PARTIAL AND COMPLETE*

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ENID

Ileus as the word is used in the present day and age means any complete or incomplete obstruction or impediment to the onward movement of the intestinal contents and to their eventual evacuation. There are three main types under which we can classify all kinds of intestinal obstruction. First, dynamic ileus which is a very rare condition and which is due to an over-stimulation of the musculature of the intestines which completely occludes the lumen of the bowel. This type of case is seen either in the highly neurotic individuals or those suffering from a severe toxemia. Second, adynamic or paralytic ileus of which there are two kinds; the functional paralysis and a paralysis due to some organic disease. The former may be caused by any reflex stimulation of the inhibitory nerve the splanchnic, which causes a cessation of peristaltic movement. This stimulation may be due to certain diseases or injuries of the testicles or ovaries, the passage of urinary or biliary calculi, after the reduction of a hernia, or after an operation for hemorrhoids. In such cases the paralysis of the bowel is due to a violent irritation to the sensory nervous mechanism. The second type in this class in the obstruction caused by the paralysis attending some organic disease, such as

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peritonitis, either localized or general, embolism or thrombus of the mesenteric vessels, all of which directly or indirectly affect the wall of the intestine and thus affect the nervous apparatus. The above types of ileus will not be considered in this paper. The third class to be considered is mechanical ileus, or better known as intestinal obstruction. This is by far the largest class and the one which the busy surgeon encounters almost every day. This group includes all those cases where the lumen of the bowel is constricted or completely closed, due to any physical agent.

PATHOLOGY

The bowel below the point of obstruction is usually contracted and empty. It looks more grayish than a normal functioning bowel. Above the obstruction the principal change is the distension with great thinning of the walls. The bowel is congested and has either a red or purplish tinge to it. The contents of the bowel is either liquid or semi-solid or gas. This gas is formed from the fermentation of food products. In the later stages of the obstruction it is found that the coils of the intestines nearest to the obstruction are distended with gas while those higher up are filled with fluid. As a rule you can tell when you are close to the site of the obstruction, by the contents of the bowel, whether liquid or gaseous. When the bowel becomes greatly distended there is an interference of circulation, the bowel becoming greatly congested and later gangrenous. In the acute strangulated coils the congestion and hyperemia come on early with a complete stasis of the circulation. In this stage there may be considerable hemorrhagic extravasation both in the lumen of the bowel and of the bowel wall. Later a gangrenous condition develops when the bowel becomes greenish or grayish in color. When this occurs the walls of the bowel are more permeable to bacteria and thus the infection rapidly spreads to the peritoneum causing a violent peritonitis.

Very few patients with intestinal obstruction die from peritonitis or perforation of the bowel. The principal cause of death following obstruction is due to a severe auto-intoxication. A very toxic product is formed by the fermentation of food products above the obstruction. This toxic product is of unknown composition and is absorbed from the obstructed loop. It has been shown that this toxin will not

be absorbed from the normal intestine but for some reason or other the obstructed bowel is more permeable and the toxin gains entrance into the general circulation causing severe prostration and death.

SYMPTOMS

Pain is one of the first and foremost symptoms and is usually very severe, especially in the cases of acute obstruction. This is due either to the constriction of the nerves in the affected segment or to violent peristaltic efforts being made to force the contents of the bowel through the obstruction. These pains are usually referred to the middle portion of the abdomen and may be so severe as to completely prostrate the patient. Later the pains are of cramp-like character due entirely to the peristalsis. Very soon the bowel becomes fatigued, the abdomen becomes distended, and then the patient complains only of the tenseness of the abdomen and the difficulty in breathing. In chronic obstruction the pains usually are much slower in onset and develop very gradually until they are so severe that the patient screams out in agony. Associated with the peristaltic pains of the chronic obstruction a very important sign is the visible peristaltic movements. These are usually very intense and rapid and can be easily seen in the thin abdominal walled individuals.

CONSTIPATION

Following the acute onset of an obstruction there may be one or two good sized bowel movements. The amount and number of bowel movements depend a great deal upon the site of the obstruction. The higher the obstruction the more contents that will be passed before there is an absolute constipation. In chronic obstruction of the large bowel, the bowel wall may hypertrophy so much that absolute constipation is a late finding. Liquid may be forced by when there is a large accumulation of solids above the obstruction. A deformed stool such as a ribbon shaped, may be caused by a partial obstruction of the lower bowel, but may also be caused by a spastic condition of the colon or sphincter ani. The presence of blood or pus in the stool suggests that there is some organic disease of the bowel causing the obstruction.

VOMITING

Shortly after the first pain of an acute obstruction the patient vomits. The vomitus consists first of the contents of the

stomach. As the vomiting continues the patient next vomits bile; later the contents of the duodenum, and still later the foul smelling fecal material which is so characteristic of the late stage of intestinal obstruction. Large quantities of foul smelling liquid are discharged at times with considerable violence. This fecal vomiting is due to a reversed peristalsis and is the attempt of the bowel to discharge the poisonous product of fermentation. In obstruction of the large bowel the vomiting comes on very late while in obstruction high up in the jejunum or duodenum the vomiting comes on early, is much more severe, and is quickly followed by severe prostration.

PROSTRATION AND COLLAPSE

In chronic cases the prostration and collapse may be long delayed and only occur after the toxemia has become very severe. The higher the lesion as a rule, the quicker and the more severe the prostration. The appearance of these patients is very typical. The skin is cold, pale and generally bathed in a cold sweat. The temperature falls; the eyes are sunken. There is a worried expression on their faces; the respirations are shallow; the pulse is rapid and feeble. The mucus membranes are parched and the urine rapidly becomes very concentrated and decreases in amount. The patient gradually loses all sensation, sinks into a profound stupor and dies. In the later stages the patient, having lost all sensation, may feel a great deal better, and may give one a deceptive appearance of improvement.

DIFFERENTIAL DIAGNOSIS OF THE TYPE AND LOCATION OF THE OBSTRUCTION

Having made the diagnosis of an obstruction the next most important problem is to determine if possible the cause of the obstruction and the location of the lesion. This, a great many times is next to impossible, and can only be determined after an exploration. I will give some of the characteristic symptoms of the most common lesions. The diagnosis of a partial obstruction due to adhesions is one that is very commonly made. In fact any patient who has at least one operation and who later suffers from indefinite cramps in the abdomen is sure to have that diagnosis made if they see more than one doctor. Great care must be exercised before this diagnosis is made. The patient who is really suffering from a partial or complete obstruction gives a history of some pre-

vious abdominal lesion such as pelvic infection, previous operation, peritonitis or severe abdominal traumatism. The onset may be acute, followed quickly by severe prostration. At times the strangulated loop is markedly distended, and a mass may be palable, simulating a tumor. This is quickly followed by a distension of the abdomen, vomiting and prostration. With this history and symptoms of an acute obstruction we may feel fairly safe in our diagnosis. At other times the onset is very gradual, the symptoms are very indefinite, the findings almost negative and the diagnosis is very difficult.

HERNIA

With an enlarged tumor which is not reducible, protruding from the usual sites of hernia the diagnosis is easy, but when there is an internal hernia such as hernia of the foramen of Winslow, and into various pouches throughout the abdomen, the diagnosis is so difficult that it is seldom made except after laparotomy.

INTUSSUSCEPTION

Intussusception is a condition occurring practically only in infants and children. In the early stages the diagnosis is usually easy. The most common site is at the ileocaecal valve, although it may occur either in the small or large bowel. There is a small palpable mass over the site of the lesion. This is a round, sausage-like tumor and is usually movable. There is a characteristic bloody mucus discharge from the lower bowel. At times the lesion may be so extensive that the small bowel protrudes from the rectum. The onset is very typical. An ordinarily healthy infant suddenly cries out in pain, begins to vomit and breaks out in a cold, clammy sweat, prostration coming on rapidly.

VOLVULUS

This term is applied to various kinds of twisting, knotting and rotation of the intestines. The predisposing cause of this condition is a relaxed, elongated mesentery, thus permitting an abnormal mobility of the bowel. The most common site of a volvulus is at the sigmoid flexure. The symptoms are virtually the same as other types of obstruction, with the exception that the vomiting may be long delayed or absent, especially if the sigmoid is affected. Lesions at this site also produce a great deal of rectal tenesmus which is a very characteristic symptom. Upon examination the involved bowel forms a

tumor which is easily palpable. The abdomen soon becomes enormously extended and peritonitis sets in in twenty-four to forty-eight hours.

TUMORS

In the cases of carcinoma which is usually situated in the large bowel, the symptoms are those of a gradually developing chronic obstruction. In a large percentage of these cases blood and pus is found in the stool. These lesions may be of the annular variety and may completely escape detection upon abdominal examination.

At rare intervals an obstruction is caused by tumors of other organs in the abdomen, such as cystic ovaries or large fibroids. The diagnosis is usually self evident in these cases.

Obstructions caused by such things as gall stones or enteroliths have no typical symptoms and the diagnosis is not correctly made until after an operation.

TREATMENT

Intestinal obstruction is one disease in which the diagnosis must be made early in order to save the patient. It is justifiable at times to operate when the diagnosis is strongly suspected, as more harm can be done by waiting than can be done by a laparotomy. At operation in the real severe cases the most conservative treatment is at times by far the safest procedure. It has been definitely demonstrated that a simple enterostomy greatly reduces the mortality of acute obstruction, and I believe that the time is coming when an enterostomy will be done in every acute case of obstruction where the bowel shows very much distension. Some surgeons are so impressed with the efficacy of this treatment that they will go as far as to drain two or three different loops. We have all seen cases of acute obstruction from strangulated hernia or adhesive bands, where the obstruction was easily freed, and yet the patient received no benefit from the operation. A simple enterostomy I believe would have saved these patients. Enterostomy is also indicated in those cases who are in extremis. Without disturbing the patient you may, under novocaine anesthesia, open the abdomen, grasp the first distended loop and insert a small rubber tube without removing the patient out of his own bed. This will give an outlet for the poisonous products in the bowel, peristalsis may be revived, and the second operation to determine the cause of

the obstruction deferred for a few days until the patient is in better condition.

In chronic intestinal obstruction due to adhesions where the bowels are all matted together and cannot be freed easily, the best procedure is to do a lateral anastomosis around the obstruction. If the adhesions are separated the raw surfaces are so extensive that they cannot be peritonealized and there is a big danger of recurrence of the adhesions. If the adhesions are not extensive, resection of the affected loops may be the safest plan.

INTUSSUSCEPTION

Intussusception in the small bowel which is not easily reducible, should be excised. If the lesion is at the ileo-caecal valve and can be reduced without difficulty, the ileum may be sutured down to the posterior peritoneal wall or to the lateral wall of the caecum which will prevent a recurrence. Some of these cases may be relieved by manipulative procedures without operation, especially if taken very early.

In volvulus the loop can usually be untwisted. Some difficulty may be encountered, but this may be overcome by drainage of the offending loop. If loop is gangrenous it either must be resected or the loop eventrated and sutured above and below to the peritoneum. It may then be cut away immediately, or later, depending upon the degree of the ileus. In case that it is untwisted the mesentery should be sutured down or shortened to prevent a recurrence of the lesion.

In tumors or carcinoma of the large bowel the best procedure is to do an enterostomy or colostomy to tide over the acute symptoms and then later do a resection. One of the most conservative that gives excellent results is the Mickuliz operation. This can only be done in freely movable tumors, either located in the transverse colon or in the sigmoid. The tumor, bowel and all are eventrated, the bowels are sutured together below the tumor, the tumor then is cut off and in a few days the lumen of the bowel is restored by the use of clamps upon the septum. Thus the operation may be performed in one stage and is the safest I believe, of all operations upon the large bowel.

A life saving procedure in intestinal obstruction has recently been developed by Hayden and Orr¹. They have shown rather conclusively that during an ob-

struction there is a very marked diminution of the blood chlorides and they claim that by giving large quantities of the hypertonic salt solution in the vein that the toxemia is greatly reduced. They recommend giving as high as one gram of sodium chloride for each kilogram of body weight, daily. In their experiments they were able to keep a dog alive who had an obstruction, for twenty-eight days, while a controlled dog died in four days. They claim that the chloride in the blood unites with the toxin which is absorbed from the bowel, causing it to lose its toxic qualities. This experimental work has been substantiated in clinical practice. We have found almost unbelievable improvement following this method of treatment. In conclusion, I believe that there are two procedures which if carried out correctly, will save a great many of our cases of intestinal obstruction, and they are: first, the frequent use of a harmless enterostomy, and second, by giving large doses of hypertonic salt solution in the vein.

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RIGHT ABDOMINAL PAIN OF THORACIC ORIGIN*

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One year ago¹ I presented a paper before this section, dealing with chronic pain in the right lower abdomen, due to pathology in the same area. This discussion concerned the sympathetic and spinal nerve supply in the production of the viscerosensory reflex. The same type of pain, either acute or chronic, may be produced in the chest and referred to the right side of the abdomen. The importance of a clear conception of chest pathology as a cause of such pain can scarcely be over-estimated. Treatment of chest and abdominal conditions are, as a rule, entirely different. In a general way, it may be said that the former is medical and the latter surgical. A patient who is already depleted by toxins from a thoracic disturbance is indeed a poor subject for surgery.

A brief resume of the nerve supply of the thorax and its viscera is necessary for a complete understanding of the reflex responsible for abdominal pain. The diaphragmatic parietal pleura, like the diaphragm, is made up of two parts, each receiving a separate nerve supply. The pleura covering the crura and central tendon is innervated by the phrenic nerve which arises from the third, fourth and fifth cervical segments; the pleura covering the costal portion of the diaphragm is innervated by the lower six intercostal nerves arising from the lower thoracic segments. The remainder of the parietal pleura is reached by the nerves from the upper six thoracics. The lungs and heart receive fibers from the first five thoracics, the aorta from the first ten and finally the abdominal viscera from the fifth to the twelfth thoracic nerves. Reflex pain is produced in the area to which these various nerves are distributed.

Although physiologically there is a distinction between reflex and referred pain, clinically they are identical, and the two terms will be used interchangeably in this paper. It is a law of reflex action that the intensity of the stimulus is always modified by central control and by natural resistance at the synapse. Therefore a mild stimulation will have a narrow zone of reference while a more intense stimulation may excite a reaction across the cord to the opposite side and also into adjoining segments; thereby spreading the zone of referred pain. A practical instance of this will be referred to later.

Irritation on the diaphragmatic parietal pleura at the crura or central tendon will produce a pain in the neck from the nerves running out of the third to fifth cervical segments. Pleurisy involving the costal pleura or the periphery of the diaphragm will produce a right sided abdominal pain through the reflex involving the lower six thoracic nerves. Fortunately a pleural rub is much more quickly detected at the periphery and should always be searched for in the presence of the characteristic abdominal pain.

Consolidation or congestion of the upper lobes of the lung will not produce abdominal pain since the upper six thoracic nerves do not reach the abdomen, but the same pathology in the lower lobe by irritation of the diaphragmatic pleura and

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through its own reflex will cause abdominal pain. This is often seen in children, probably due to a lack of development of central inhibition. According to Pottinger², of whose essays I have made frequent use, a pulmonary hemorrhage with blood seeping into the finer bronchioles will produce an irritation of the diaphragmatic pleura which results in sufficient irritation to produce abdominal pain so frequently seen during pulmonary hemorrhage.

A neuritis involving the lower thoracic nerves will excite sufficient stimulation to produce reflex pain in the abdomen. The area of acute tenderness of these nerves at their exit from the spinal canal may often enable one to prophesy the advent of vesicular eruption (as seen in herpes) rather than that of the surgeon's aseptic scalpel.

Adhesions lying between the visceral and parietal pleura at the base of the lung may be a source of chronic abdominal pain. So it is that in pneumo collapse of the lung by artificial or spontaneous means, through increased tension on such adhesions, will produce a sudden agonizing pain in the abdomen simulating the acute surgical type.

The dissecting type of aneurysm of the aortic arch may bring about such an intense stimulation of the corresponding segments (first to tenth thoracics) as to break across to the opposite or right side and thereby produce right as well as left sided abdominal pain.

It might be emphasized in closing, that a complete thorough examination will in the great majority of cases disclose the true conditions. We do not vary in intelligence and mental ability as much as we vary in thoroughness of examination. More dependence should be placed on physical signs and less on the more evanescent, deluding symptoms and laboratory findings. A better conception of the nerve supply and their reflexes, which is responsible for pain, will bring about more accurate diagnosis and therefore more successful treatment. With more successful treatment comes more satisfied, healthful patients, which I am sure is the goal of all physicians.

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CENTRAL NERVOUS DISEASE AND PAIN IN RIGHT SIDE OF ABDOMEN*.

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I believe it is a rare occurrence nowadays for patients to be operated upon for abdominal symptoms due to nervous disease. Surgeons and diagnosticians are now so well informed, their minds are fully cognizant of the abdominal symptoms sometimes caused by neuro-pathology, and their diagnostic acumen is such that it seems improbable many patients should come to operations with a faulty diagnosis in so far as nervous disease is concerned. That this still occasionally occurs, however, is shown by some recent statistics compiled by Woltman of the Mayo Clinic and reported in Minnesota Medicine. He says, "Histories of one hundred and twenty patients with gastric crises show that they had been subjected to the following sixty-three futile operations.

Operations on gall bladder	14
Appendectomies	20
Operations on stomach	12
Operations on pelvis (ovaries removed in 5 cases, tubes in 1, suspension in 1)	8
Operations on kidneys (Dietl's crises 1)	3
Adhesions	3
Explorations	2
Reduction of colon	1
Total	63

While this group of patients represents only a very small number of the total abdominal operations performed, it seems an entirely too great a proportion, for as Woltman points out, there was no abdominal pathology in these cases and a fairly painstaking examination would have revealed the true nature of the disease. In my opinion, the trouble is due to the fact that the examination was not thorough and the examiner's mind was unconsciously closed to any thing but the "Surgical abdomen."

In the majority of patients with disease seemingly located in the abdomen, the diagnosis is apparent and beyond doubt, as for instance acute appendicitis;

*Read before the Section on Surgery and Gynecology, annual meeting, Oklahoma State Medical Association, Oklahoma City, June 22, 23, 24, 1926.

but in those cases with abdominal symptoms that do not fit in with the classical syndromes, a special effort should certainly be made to rule out abdominal crises and other abdominal symptoms due to nervous disease.

Among physicians it is a matter of common knowledge that tabes, spinal cord tumor, caries of the spine and posterior root ganglionitis can at times produce symptoms that point to disease of the kidney, liver, gall bladder or appendix. It is not quite so well known, perhaps, that brain tumor and the so-called abdominal migraine may occasionally be guilty. Woltman reports the case of a young woman with typical migraine attacks associated with abdominal pain and nausea whose headaches ceased, who continued to have attacks of abdominal pain and nausea. She was operated upon and probably justifiedly so, without finding the pathology.

It seems to me all that is necessary is to keep in mind the fact that nervous disease can, at times, produce symptoms of abdominal disease and be on the lookout for changes in the reflexes, pupils and the mental processes.

Locomotor ataxia has its lost knee jerks, Argyl-Robertson pupil and its sensory changes. Frequently there is vesical and virile weakness. It should be borne in mind that early tabes may show abdominal crises and other symptoms escape detection unless diligently sought.

Frequently the first and for months the only marked symptoms of spinal cord tumor or other forms of spinal medullary compression is pain in the abdomen, occurring perhaps in paroxysms. However careful search, with laboratory investigations will reveal the true pathology.

Sometimes tumors of the fourth ventricle give rise to abdominal symptoms, more especially nausea, but occasionally pain, before the classical symptoms of brain tumor appear, but here again careful examination of the entire body including the eye grounds will prove enlightening.

I am firmly convinced that now and then, but quite infrequently, purely functional nervous disease or one of the psychoses may cause pain in the abdomen. That faulty mental processes may produce physical symptoms is, I believe, admitted by all and it would not be surprising if more or less severe abdominal pain could arise from such a cause. Let us not for-

get, however, that because we are unable to find the cause of abdominal pain, a cause is not there, but that in the absence of demonstrable cause it is sometimes necessary to make a working diagnosis of functional nervous disease of faulty mental processes, remembering we might be wrong.

HERNIA*

W. P. FITE, M.D., F.A.C.S.
MUSKOGEE

Hernia as a cause of right abdominal pain is seldom obscure by virtue of the fact that the vast majority of herniae are obvious if any care in history taking and examination is made.

Occasionally pain or even obstruction is caused by a knuckle of gut being incarcerated in the upper portion of the inguinal or femoral canals, even these can be discovered by examination and by symptoms pointing to the origin of the trouble.

The same can be said of post operative herniae, and the seldom found sciatic, lumbar and obturator herniae and those taking place into the retro-peritoneal pouches about the head of the caecum are seldom diagnosed before the abdomen is opened.

It has been the experience of the speaker that herniae with the exceptions noted above are seldom difficult of diagnosis but he has found on various occasions conditions closely simulating hernia and which can produce one or more symptoms of hernia and might lead to errors in diagnosis.

The following conditions in his experience have been found in the various situations for herniae and which demanded a differential diagnosis.

- (1) Hydrocele of cord.
- (2) Hydrocele of round ligament. (One recently found occupying the femoral canal in a woman with large fibroid of long standing.)
- (3) Large varices about the external inguinal ring or suphenous opening.
- (4) Undescended testicle.
- (5) Hydrocele extending back into inguinal canal.

*Read before the Section on Surgery and Gynecology, annual meeting, Oklahoma State Medical Association, Oklahoma City, June 22, 23, 24, 1926.

- (6) Ilio-Psoas abscess pointing in Scar-pas triangle.
- (7) Lipomata.
- (8) Inguinal bubo.

As for the pain produced in herniae this may be classified in three ways.

(1) That due to pressure or tension on those tissues (mesentery) supplied by the abdominal sympathetics — in which case the usual type of pain referred to the epigastrium or center of abdomen is found. This is characteristically the first pain in abdominal obstruction from any cause.

(2) Local pressure about hernial opening or nerve elements in abdominal wall. This is usually localized about the opening or if upon a nerve trunk may be referred along the trajectory of that nerve.

(3) Local inflammation — this also is generally localized both as to pain and tenderness and speaks the language of the location of the inflammatory process.

Post operatively quite a few cases of pain in the operative scar have been observed. These have probably all been due to either too tight compression of the cord elements with irritation of the genital branch of the genito crural nerve or to the inguinal portion of the ilio-inguinal nerve being caught in the scar.

CONCLUSIONS

Herniae while often causing right sided abdominal pain are almost always easy to diagnose with but few exceptions — and these exceptions are so rare as to be practically negligible, but special care should always be exercised to rule out strangulated hernia in all cases of obscure intestinal obstruction.

UNIVERSITY OF OKLAHOMA—EXTENSION DIVISION

Classes will be held in six cities of southwestern Oklahoma when Dr. W. A. Rupe of St. Louis offers his next Post Graduate Medical course, according to an announcement made recently by officials of the Extension Division of the University of Oklahoma with whom the doctor is working. The course, Pediatrics, will continue for two months with one lecture and one clinic each week in Lawton, Waurika, Mangum, Altus, Hobart and Sayre.

Doctor Rupe returned for his vacation in St. Louis, September 1, and immediately resumed work in northeastern Oklahoma where large groups of physicians are being served with classes in Tulsa, Miami, Vinita, Bristow and Pawhuska. Upon the close of his activities in this section, November 12, Doctor Rupe will go at once to the southwestern part of the state.

Success of the Post Graduate Medical courses has exceeded all expecta-

tions, Extension officials at the University said recently. Physicians of the state have entered into the work with such enthusiasm that a course eventually will be given in every county in which there are fifteen or more doctors. By July, 1927, officials hope it will be possible to have a course within reach of every practicing physician of the state so that those members of the profession who are interested in the work may have an opportunity to take the subjects without leaving their practice.

Provided that able instructors can be secured, the School of Medicine is planning to offer other subjects thru the Extension Division next year. The future of the work and its expansion also depends to a great extent upon the appropriation of funds to assist in bearing the administrative expense now being carried by the Division. Delay in giving courses as promptly as requested by physicians in many counties has been due to lack of adequate funds to carry on the work.

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of the State Association should patronize our ad-
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EDITORIAL

TO OUR MEMBERSHIP

Our members and officers of County
Medical Societies are extended our best
wishes and greetings upon the conclusion
of another year in our history and the
ushering in of 1927.

With few exceptions the relations of
the JOURNAL with our members has been
most pleasant and mutually helpful. Much
arduous work has been brightened and
lightened by kindly and prompt coopera-
tion. We feel sure these relations will con-
tinue in the same spirit. It is the desire

of your officers and your JOURNAL to ren-
der the maximum of service. We take this
occasion to again ask, as we ask annually
at this Season, a continuation of the fine
cooperation heretofore received from our
County Secretaries. We also take occasion
as we have before to urge upon every in-
dividual member to at once make it his
business to promptly see his county secre-
tary and remit the usual dues for the year
1927. A great load may be taken from the
county secretary who serves the members
without financial reward by meeting him
half way at least in this matter. Prompt
attention to the matter of placing oneself
in good standing without unnecessary de-
lay prevents many errors which creep into
the records despite every effort to prevent
them, and if they do occur, more time is
given for rectification before making up
the various rolls of membership for the
New Year.

Every County Society, regardless of its
small or large membership should hold a
meeting in December and select officers
for the New Year, outline a program, am-
bitious or otherwise, and try to live up to
it during the year. Every meeting of
physicians results in some good to some
physician. The more you meet the more
you get and the better you will like the
meetings. Reports of elections and meet-
ings should be mailed the Secretary in or-
der that the rolls may be brought up to
date.

With best wishes for a prosperous New
Year.

IMMEDIATE LEGISLATIVE POSSIBILITIES

There has been pending for some time
in the Oklahoma Supreme Court a case,
which, when decided, may have far reach-
ing effects upon the medical profession.
The case hinges essentially upon the sys-
tem, not only of the State Board of Medi-
cal Examiners, but practically all other
similarly constituted boards created by
the Legislature, of using the fees received
from examinations to defray necessary ex-
penses of administration. Legislative au-
thority clearly and explicitly created and
authorized such procedure, and it has
never been questioned before. Not long
since the matter was brought to judicial
notice upon the theory that all moneys so
received must enter the state treasury,
and that expenditures must be provided

by specific act of the Legislature. This contention, if sustained, will, in effect, invalidate the work of the Board. It may possibly render worthless hundreds of Oklahoma licenses, certainly those granted to practitioners not legally practicing in the confines of the State upon the entrance to Statehood. If the contention is not sustained, everything remains as heretofore.

The Oklahoma medical profession should keep this matter clearly in mind, and if we must have entirely new legislation its construction should be entered into with spirit and good common sense. It should be remembered at the outset that the ideal of no one is hardly possible of attainment, that every line of any such new law must conform to constitutional requirements, whether it suits the individual or not.

The Legislative Committee of the State Medical Association is ready to receive advice and eager to have constructive suggestions. Perhaps, as we have not noted before, nothing will be more dangerous and sadly handicapping this work, should it be necessary, than that dangerous and pernicious habit of "free-lance" legislative agents and "authorities". The hard, careful work of long time, the accumulated experience of years may be rendered ineffective by overzealous, misguided individuals seeking to better our conditions, but in the end merely muddying the already turbid waters of legislative cross-purpose and misunderstanding. The moral of all this is: Tell it to the Legislative Committee.

Editorial Notes—Personal and General

GRADY COUNTY MEDICAL SOCIETY met at Chickasha November 5th.

DR. M. M. CARMICHAEL, formerly of Anadarko, has moved to Duncan.

DRS. EVA and W. W. WELLS, Oklahoma City, spent a week in Atlanta, Ga., last month.

DR. and MRS. W. P. FITE, Muskogee, announce the arrival of a daughter, Frances, on November 24th.

DR. and MRS. CLAUDE A. THOMPSON, announce the arrival of Claudia Pat, a daughter, on November 13th.

DR. L. C. KNEE, Lawton, was called to Indianapolis November 13th, on account of the death of his brother, Edgar.

DR. H. B. AMES, Alva, has returned from New Orleans, where he was taking a four-weeks' post-graduate course in medicine.

DR. V. L. McPHERSON, formerly of Boswell, has moved to 2406 Kingston St., Dallas, Texas, where he will establish his practice.

DR. FRED S. CLINTON, Tulsa, was elected vice-president of the American Association of Railway Surgeons at its recent meeting.

DR. E. B. THOMPSON, Duncan, and DR. G. H. WALLACE, Holdenville, are reported to have opened a new hospital at Holdenville, with an initial capacity of 40 beds.

DR. and MRS. ERNEST SULLIVAN, Oklahoma City, have returned from Atlanta, Ga., where Mrs. Sullivan was elected treasurer of the Women's Auxiliary of the Southern Medical Association.

HUGHES COUNTY MEDICAL SOCIETY met at Holdenville November 24th, and elected the following officers for 1927: Dr. W. L. Taylor, Gerty, president; Dr. S. H. Hamilton, Non, vice-president; and reelected Dr. D. Y. McCary, Holdenville, secretary.

OKLAHOMA STATE HOSPITAL ASSOCIATION met at Enid November 29-30. Dr. Fred S. Clinton, Tulsa, President, presided at the meetings. Among the distinguished guests present were Governor-elect Henry Johnston, Doctor P. P. Claxton, Superintendent of Education, Tulsa. A banquet was tendered the meeting by Enid Hospitals, after which the President's address and those of Governor Johnston and Doctor Claxton were broadcasted by Station KVOO, Bristow. More than 250 guests attended the banquet. The program of the general meeting held during the two days were well attended and brought out much discussion covering the many problems confronting Oklahoma Hospitals. Mr. Frank Fesler, Superintendent, University Hospital, Oklahoma City was elected President for the ensuing year. The Hospitals of Enid were unanimously voted princely entertainers as a result of their efforts to make the meeting the most successful ever held.

EYE, EAR, NOSE and THROAT

Edited by Jas. C. Braswell, M. D.
726 Mayo Bldg., Tulsa

An Improved Technique for Iridectomy for Glaucoma., Sukes, G. F., and Cushman, B.: *Am. J. Ophth.*, 1926, 3 s. ix, 268.

In iridectomy as performed by the authors a curvilinear conjunctival incision is made about half way between the limbus and the insertion of the superior rectus with its convexity toward the cornea. The flap is then dissected free from the limbus, of which from 6 to 8 mm. is exposed, and the dissection continued slightly beyond the limbus without splitting the cornea. A cataract knife is then introduced vertically 1 or 2 mm. above the limbus at either end of the exposed sclera and thrust 1 cm. into the anterior chamber, just anterior to the iris, the section being then

completed by an upward sawing cut to a point opposite the wound of entrance. This gives a shelving serrated incision practically through the scleral spur.

The iris is seized with a forceps, drawn out gently and downward and forward toward the cornea. With an iris scissors, successive small nicks are made in the iris, one blade being kept under the upper scleral edge, until the opposite end of the section is reached. The iris is then drawn in the opposite direction and severed completely.

The conjunctival flap is replaced by stroking with a spatula. Sutures are rarely necessary.

The advantages claimed for this method are the conjunctival flap, the cicatrix away from corneal tissue, a serrated scleral section favoring a filtering scar, and prompt healing. The tension is then reduced and remains so without the use of miotics. After the operation, 1 per cent atropine may be instilled. The danger of late infection is very slight. Drawing the iris downward without tearing it favors the deposit of iris pigment in the wound. From twenty-four to forty-eight hours after the operation, the suspensory ligament and occasionally the ciliary body are visible through the coloboma. When the anterior chamber is obliterated the section may be made as in a cyclodialysis. Scopolamine and morphine are used before the operation in all cases.

Lid Traction the Greatest Safeguard Against Vitreous Loss in Cataract Operation., Obarrio, P.: *Am. J. Ophth.*, 1926, 3 s. ix, 264.

Decreased intra-ocular tension renders vitreous loss less probable, while pressure on the globe causes loss of vitreous by increasing the intra-ocular tension. Traction on the lids causes collapse of the cornea and diminishes tension, making instrumentation safer, particularly the use of a lens spoon or loop. The mechanical principles and the anatomy involved are discussed. The speculum used by Obarrio is similar to de Laperonne's speculum. It has blades which fit well with little tendency to slip and between the arms and the blades are hinges which make it possible to rotate the arms backward or forward without disturbing the relation between blades and the lids.

The assistant seizes the speculum as soon as the corneal section is completed and makes traction constantly on both lids until the eye is banded. The operator's movements are anticipated in order that he may be given the best exposure at all times.

In enucleations pressure is made on the lids to cause the eye to move forward.

A Clinical and Experimental Study With Some Physical Agents in Partial Deafness: Preliminary Report, Hollender, A. R., and Cottle, M. H.: *Arch. Otolaryngol.*, 1926, iii, 338.

The authors made experimental and clinical studies in an attempt to establish a basis for the use of diathermy in the treatment of progressive undifferentiated defective hearing. They do not maintain that electrophysical therapy is specific or that it replaces other measures which are known to offer a favorable prognosis, but state that in a large series of cases of chronic catarthral deafness it has been found of some value even after other measures have failed. Further

experience may show that it is possible thereby to arrest the symptoms of otosclerosis.

The clinical improvement obtained is dependent upon four factors: (1) the nature and extent of the pathological changes, (2) the apparatus and electrodes used, (3) the manner in which the treatment is applied, (4) the length of time the treatment is continued.

The treatment should be applied on the basis of anatomical principles and continued over a long period.

The time that has elapsed since the author's experiments has been too short to warrant a decision as to the permanency of the improvement or cure.

Congenital Occlusion of the Choanae., Phelps, K. A.: *Ann. Otol., Rhinol. & Laryngol.*, 1926, xxxv, 143.

Congenital occlusion of the choanae may be membranous or bony, unilateral or bilateral, complete or incomplete, and accompanied by other congenital defects. It occurs in females twice as often as in males and is bilateral three times more frequently than unilateral. Unilateral occlusion occurs much more commonly on the right side than on the left. The condition does not seem to be hereditary.

The symptoms of complete obstruction are striking as the infant has great difficulty in breathing and in nursing and its nasal cavities are filled with a peculiar glairy, gelatinous secretion. Additional findings are anosmia, diminished lung expansion on the affected side, an increase in the blood pressure, incontinence of urine, dyspepsia, and dry pharyngitis.

The symptoms of unilateral obstruction are less marked. The diagnosis is confirmed by the impossibility of passing a probe through the nose, nasopharyngoscopic examination, and by palpation with the finger in the nasopharynx.

The recognized method of treatment consists in making an opening through the obstruction and removing it. In the author's opinion, the posterior portion of the septum should also be removed.

The Diagnosis and Treatment of Paranasal Infections in Infants and Young Children Under Ethylene Anaesthesia., Dean, L. W.: *Laryngoscope*, 1926, xxxvi, 257.

In Dean's experience, sinus disease in infants and young children which is associated with severe systemic conditions such as arthritis, chorea, and nephritis has been slow to yield to treatment. Little difficulty has been encountered in diagnosing chronic sinus infection, but eradication of the last tract of the sinus disease has been less simple.

Irrigation of the maxillary sinuses is best accomplished under ethylene anaesthesia.

The diagnosis of sinus disease in infants and young children is facilitated by ethylene anaesthesia. For operations on the nose or sinuses, chloroform and oxygen are preferred because, when they are employed, the field is much less bloody and electrically driven suction machines may be used in the operating room with safety.

Dean now uses a new technique in investigating the maxillary sinuses. Instead of inserting a long needle through the trocar that has been passed into the sinus, he attaches a syringe di-

rectly to the trocar and injects sterile normal salt solution into the sinus and aspirates it through the trocar. The trocar has an interior diameter three times that of the needle formerly used; therefore larger pieces of pus and thicker pus may be aspirated. The technique described obviates the danger of injuring the sinus wall by a second needle with, as originally used, projected beyond the end of the trocar.

The material aspirated is examined macroscopically for pus and sent to the laboratory for microscopic examination and culture.

UROLOGY and SYPHILOLOGY

Edited by Rex Bolend, B.S., M.D.
1010 Medical Arts Building, Oklahoma City.

Clippings from Urologic and Cutaneous Review:

Better to dilate a stricture many times than to cut it once.

Do not forget that syphilis may be the cause of pulmonary disorders.

It has been claimed by some that a symmetrical herpes zoster is syphilitic.

If in hematuria the patient passes a long, wormlike clot, investigate the possibility of renal pathology.

Do not let a syphilitic pregnant wife go to full term without subjecting her to tests and treatment if necessary.

In introducing an instrument into a tight urethra do not hold to the principle that a false passage is better than none.

In the diagnosis of all cases of chronically pigmented and irritable skins in elder patients, first exclude scabies and pediculosis.

In the treatment of the acute complications of gonorrhea (prostatitis, epididymitis) you will be well pleased with the intracutaneous injections of suitable milk preparations.

Never tell a patient who has had a double epididymitis that he is forever sterile. He might be an exception.

A right-sided pain that persists after an appendectomy is sufficient grounds for cystoscopic and radiological investigation. Many times the appendix has been removed and a stone left behind.

PAINFUL PERINEPHRITIS

"Gorash explains how perinephritis dolorosa can be cured at once by nephrololysis, slitting or resecting the kidney capsule, and replacing the kidney. His six patients in this category were all women, and otherwise apparently healthy. All complained of periodic colic-like attacks. The pains were in the kidney and navel region radi-

ating to back and shoulder. The urine was normal as were also ureter catheter and roentgen-ray examination. The cystoscope showed merely slight hyperemia at the ureter mouth. The kidney seemed to be sound, but large; the capsule, thickened."

METABOLISM OF SALTS IN NEPHRITIS

Boyd and Courtney assert that the plasma potassium in nephritis is maintained at a constant normal level, independent of the type of nephritis or the presence or absence of toxic symptoms. There is no evidence of tissue retention of potassium salts in nephritis. The kidney maintains its ability to excrete potassium salts in a normal manner. The magnesium of the blood plasma is at a low normal level in all types of nephritis. In nephritis, there is a tendency to excessive loss of magnesium salts from the body and the production of a negative balance. The presence of edema modifies this trend temporarily. The concentration of magnesium oxide in nephritis urine is usually much lower than in normal urine. Plasma sulphates were increased in 50 per cent of the cases of nephritis studied. Evidences of sulphate retention furnished by metabolism studies are not always in agreement with those given by blood studies. There is a negative sulphate balance in nephritis edema. Sulphate retention in nephritis does not appear to be due to defective urinary excretion."

The Prostate as a Remote Focus of Ocular Inflammation.

Dr. William Zentmayer of Philadelphia very forcibly calls attention to this phase of the results of prostatic infection be it gonorrheal in origin or otherwise.

The Doctor has gone into much detail of history, physical examination, and laboratory findings and as a result points out the possibility of a chronically infected prostate. Some of the observations he made are as follows:

1. "The prostate may be the source of infection in certain ocular inflammations."

2. "The prostatic infection is probably more often nongonococcal than gonococcal."

3. "The metastasis, as in other focal infections, may occur in any of the ocular tissues susceptible of inflammatory reaction, but the uvea and cornea are probably most often involved, the latter, and also the iris alone, especially when the gonococcus is present."

4 "The fact that an inflammation persists after the removal of a suspected focus of infection does not prove that this was not the primary source of infection, as the resistance of the tissues may have been so reduced by this inflammation as not to be able to withstand the action of organisms or toxins of much less virulence from some other part of the body."

5. "Only when a metastatic inflammation subsides after the removal of one possible source of infection does it prove this to have been the exciter."

It will be noted that with all the details with which this work was done the author's conclusion was that the prostate was more often nongonococcal than gonococcal. This is so very important for the average practitioner because it seems to be a common belief that if the prostate is infected, it always points towards gonorrhea, which is

very wrong. Another factor that the doctor points out is the fact that the clinical evidence sometimes increases or at least does not subside with the removal of the foci. This is well known, but often forgotten.

The Subperiosteal Injection of Turpentine for the Treatment of Epididymitis.

Dr. John O. Rush of Mobile, Alabama, makes the following summary based on a close study of fifty cases of epididymitis. It will be noted that throughout the Doctor's article he is particular to state that the technique must be very carefully adhered to, which, in our opinion, would be rather hard for the average practitioner. It has been our experience that these really technical affairs always work better in the hands of the originator. Also it will be noted that in number seven of his summary the cases which were of purely traumatic origin responded equally as well as those gonorrheal, which leads us to assume that the whole procedure is a foreign protein reaction and equally as good results might be expected from the more simple methods.

The Doctor shows very clearly, however, that there is no apparent injury to the kidneys from injections after his technique.

1. "Three patients had pain and swelling at site of injection of turpentine, due to the fact that such injections were not made below the periosteum of the ilium."

2. "Patients with epididymitis received no treatment other than that indicated above. (Not even treatment with hot water bag, etc.)"

3. "Urinalyses showed no lesions of kidney following these injections."

4. "In some cases the pain in the testicle began to subside in from one to three hours following the first injection."

5. "There is a definite leucocytosis in practically all cases of epididymitis. The more acute the case the higher the leucocyte count. In our cases some counts were as high as 30,000."

6. "A feature worthy of comment is the sudden drop in temperature in febrile cases; the temperature in the majority of cases reached normal in 36 hours. This is in marked contrast to the sudden elevation of temperature following protein injection."

7. "In the 50 cases above reported it will be noted that three were of purely traumatic origin. The results obtained in traumatic epididymitis paralleled those obtained in gonorrheal epididymitis."

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M. D.
717 North Robinson St., Oklahoma City

Acute Knee Joint Injuries. C. J. McGuire, Jr, Ann. Surg., lxxxiii, 651, May, 1926.

This is a report of cases occurring in Bellevue Hospital during the past five years. They are classified as follows:

(1) Synovial membrane—acute synovitis and suppurative synovitis. One suppurative case cleared up completely in eight days after three aspirations. Willem's treatment was tried in nine cases; five obtained full function, one partial

function, one complete ankylosis, two amputations.

(2) Ligaments—with thirty degree flexion and sufficient period of immobilization, the crucial ligaments will heal with good function. He does not consider the Hey-Groves operation justifiable. Suture of the quadriceps tendon and the ligamentum patellae gave good results.

(3) Intra-articular fibrocartilage — fifteen operated cases are reported. Eleven cases gave normal function, two did not report, but evidently were without disability when last seen, one developed postoperative phlebitis and developed an unstable joint, one complained of persistent pain.

(4) Fractured patella—these were all operated upon if there was any separation. Twenty-five cases reported. One developed suppurative arthritis. Seventeen were operated upon; of these, fifteen cases were followed up and reported complete function, one seen only once, was doing well, one did not report.

(5) Intercondylar eminence—four cases. Treated in thirty degree flexion for six weeks. One perfect function. Three complained of recurrent synovitis and pain on standing.

This is a most interesting article and a table of all the cases showing treatment and end results is given.

Concerning the Etiology of Perthes' Disease and Koehler's Metatarsal-phalangeal Disease. W. Brill. Arch. of Orthopaed. and Unfallchir, xxiv 1, January, 1926.

The author reports a family in which for six generations there occurred a disease in the hips among its members. It is a case of inherited constitutional anomaly. The primary symptoms in childhood are: stiffness in the hips, limitation of abduction and rotation with persistence of normal expansion and flexion. Pain is not complained of, as a rule. Around the fifteenth year there appeared the symptoms of limitation, limping, aching, which in previous years has been but of mild character and frequently overlooked. Up to the age of twenty-five, the condition gradually improves; it becomes stationary at the ages of forty-five or fifty. The X-rays demonstrate processes which seem to originate within the bone substance proper. These findings speak against an arthritis deformans juvenilis but lean more, radiologically and clinically, towards the group of Legg-Perthes'. Analogous processes as in the hips are found in the heads of the first and second metatarsals and on the femoral condyles. In several instances, the diseased processes occur bilaterally. In childhood many members of this family present symptoms of spasmophilic diathesis, later those of rickets and asthenic and hypoplastic constitution. It is difficult to point to a definite date of onset; neither can it be stated with certainty in what period the disease becomes aggravated. No lues, tuberculosis, nor a single trauma can be regarded etiologically; neither can local emboli nor osteomyelitis be mentioned as causative factors. Disturbance of internal secretion may easily be suggested and accepted as a probability. The final results of all the cases were arthritis deformans in later years.

Growth Disturbances Following Resection of Joints: S. L. Haas, M.D. San Francisco. Arch. Surg., p. 56, July, 1926.

In an effort to determine the effect of resection of joints on the growth of bones, Haas performed twelve experiments on young growing rabbits. The articular cartilage, with a thin layer of bone, was removed from the tibia, fibula and patella. Only four animals lived a sufficient length of time to permit deductions.

Basing his conclusions on the results in these four experiments, he believes that a careful resection in which the epiphysis has not been hurt cause practically no disturbance in growth.

THE POTENCY DATE ON BIOLOGICS: DR. JOHN F. ANDERSON, DIRECTOR SQUIBB'S BIOLOGICAL LABORATORIES.

Frequent inquiries are received at the Squibb Laboratories asking whether Biologics, in which the potency date has passed, might not still be used with safety and confidence. This article is written with the idea of answering this same question as it arises in the minds of other representatives of the professions.

The potency date on Biologics is defined in the law, as that "date beyond which the contents (of the package) cannot be expected beyond reasonable doubt to yield their specific results." The Federal Regulations governing the fixing of the potency date of Biological Products have two main provisions. One pertains to those products which have a standard of potency, which can be used at any time to establish definitely the potency and the therapeutic worth of the product. The other provision relates to those products for which there is no standard of potency, or no means of determining quickly by laboratory methods the true therapeutic worth of the product.

In the first class we have the Antitoxins, such as Diphtheria and Tetanus, for which there are international standards of potency. For these products the Government regulations prescribe that for each 12 months' potency-period there shall be added to the contents of the package a definite excess number of units to compensate for the loss in potency on aging, even though not kept under proper conditions. For example, a package of 10,000 units of Diphtheria Antitoxin, having a potency period of two years, must contain, when finished, at least a 30 per cent excess in the number of units, or a total of 13,000 units instead of only 10,000 units as stated on the label.

It is at once apparent, therefore, that a package of Diphtheria Antitoxin may be used any time within the potency period stamped thereon, and that the person to whom it is administered will get at least the number of units stated on the label. Should the contents of the package be used after the potency date has expired, it will still be found to be therapeutically effective and at any time within a year thereafter probably will contain within 10 per cent of the original labeled potency.

All will recall that in the diphtheria epidemic at Nome, Alaska, the only Diphtheria Antitoxin that was at first available was outdated but that its use saved many lives.

There are potency standards for other products than Diphtheria and Tetanus Antitoxins, among which may be mentioned Typhoid Vaccine, Diph-

theria Toxin for the Schick Test, Anti-Meningococcic Serum, Anti-Pneumococcic Serum, Anti-Dysenteric Serum, Scarlet Fever Toxin and Scarlet Fever Antitoxin. However, the standards for all of these products, with the exception of the last, are used only for the purpose of insuring that when distributed the product will exert certain specific effects, as for example, that the Anti-Pneumococcic Serum will protect mice against a certain dose of a culture of pneumococci, using a standard serum for comparison; or that Scarlet Fever Toxin for the Dick Test will cause a positive skin test in a person not immune to Scarlet Fever.

Usually but little excess volume is put into the containers of these last-mentioned products, for the reason that the methods of standardization do not permit of exact quantitative measurement.

These products, therefore, will show a gradual decrease in potency on aging but this decrease will be much less when the products are kept properly refrigerated. Most of them may be used after the potency date has expired, if due allowance is made in the dosage for the decrease that occurs from aging. No exact information is available, however, as to how much this loss of potency is for each product.

Consequently, for those products for which no standards of potency have been established, the Government has fixed a definite potency period. These products, which include the various Bacterial Vaccines, except Typhoid, Anti-Streptococcic Serum, Leucocyte Extract, Normal Horse Serum and similar preparations, probably still are therapeutically active after the potency date has been reached, if they are used in excess of the original dosage.

There is no potency standard for Smallpox Vaccine, except that it must produce a good "take." Refrigeration is of the greatest importance to maintain the potency of this product. If kept at temperatures above 50 degrees F., the Vaccine rapidly loses in potency. Smallpox Vaccine should be kept, whenever possible, in a tin box in direct contact with the ice.

Rabies Vaccine, Semple modification, being a killed virus, is in the same class as other products for which there is no potency standard. Rabies Vaccine, Pasteur, however, has a short potency period and, except for the first seven doses, is only shipped from the laboratory for immediate use.

It will be apparent from this summary of the use of the potency date on Biologics that the Government regulations have fixed the potency date for various products to insure "beyond reasonable doubt" the therapeutic worth of those products any time prior to that date. It is also clear that the Antitoxins and most of the other Biological Products may be used after that time in cases of emergency, if proper allowance is made by increasing the dosage.

All will realize the importance of constant attention to stocks of Biologics, always making sure that those with the shortest potency periods are used first.

WHAT TO DO FOR BURNS.

The most important requisite in the treatment of burns is relief from pain. Another important factor is the prevention of infection. There is only one chemical compound which, in a single

BUREAU OF MATERNITY AND INFANCY STATE DEPARTMENT OF PUBLIC HEALTH OF OKLAHOMA

LUCILE SPIRE BLACHLY, M.D., Director, Oklahoma City

On October 25th at Ninth Annual Public Health Conference the guest of honor of the Bureau of Maternity and Infancy was Dr. Clifford G. Grulee of Chicago. Besides giving the principal address that afternoon, Dr. Grulee talked at a luncheon given by the Alpha Omega Medical Fraternity at the State University Hospital and at a called meeting of the Oklahoma County Medical Society at night. Owing to Dr. Grulee's having grown up with modern pediatric practice from its beginning, advantageously situated, as he was and is, in one of the largest medical centers of the United States, he has had an excellent opportunity to not only observe the growth of the movement but has been a conspicuous factor in making it a success. Therefore, his observations are of interest to not only the medical and nursing professions and to those interested in the public health phases of infant feeding, but to social workers and the public in general.

Dr. Grulee's address to the general conference was entitled "The History of the Development of the Infant Welfare Society in Chicago with some General Conclusions", that at the evening meeting, "Feeding the Premature Infant" and at noon, "Some of the Modern Tendencies in Pediatrics." In the former address he told how the Infant Welfare Society had developed as an outgrowth of the old Milk Commission which labored under the fallacy that pure milk was the only necessary requisite for successful infant feeding. He told how the Woman's Auxiliary had been formed later, how helpful it had been, and laid particular stress upon the special usefulness of the Infant Welfare Society as a training school for training medical students and young doctors in Infant Feeding. "You can't teach infant feeding on the sick infant", said Dr. Grulee, "You teach infant feeding on well infants." He showed charts that graphically attested the success of the simple formula of sweet milk, water and cane sugar fed at

four hour intervals if an artificial food were necessary, and other charts that demonstrated that seven out of every eight infants (87 1-2 percent) in Chicago could be fed on the breast till 6 months. Cereals were added about the sixth month and vegetable juices and finely divided vegetables at about the seventh. "If infant feedings so simple as all that" he asked, "then why use the physician?", and answered, "Diagnosis." Taking care of babies is a retail and not a wholesale job, he declares, and urged better preparation on the part of physicians to meet its difficulties.

The points of greatest interest to the profession brought out in his address at night were the necessity of hospitalizing the premature infant, the use of a very simple and inexpensive incubator built by the hospital's carpenter and heated with an electric light, and last but by no means least, the use of breast milk and that fed by gavage and at four hours intervals. Eiweiss (albumin) milk is the only substitute he uses and that only in case of absolute necessity. This he always has made fresh in the hospital. (The directions are found in his book on Infant Feeding—L.S.B.)

The noon address was of particular interest to the individual interested in medical education as it applies to pediatrics. He reminded his listeners that 20 years ago the subject of pediatrics as a specialty was little thought of but that today so rapidly had the need of it become apparent that in itself it was now divided into four separate divisions, viz: the new born, of which practically nothing is known, infant feeding, internal medicine and contagious diseases of childhood. He believes the plan of dividing the medical school by having the early years at one place, geographically speaking, and the clinic at another, is not conducive to the best results.

remedy, accomplishes both of these purposes. Butesin Picrate combines the analgesic, pain relieving properties of Butesin, a practically non-toxic local anesthetic of the same type as anesthesin, but two to four times as powerful, and the antiseptic action of picric acid, which in itself has always been a popular medicament for burns.

Butesin Picrate Ointment is a most convenient method of treating burns. The relief from pain is almost instantaneous. There are no sprays or wet dressings. The ointment can easily be applied by a nurse or even by the patient. The use of Butesin Picrate Ointment, for severe burns, makes unnecessary the administration of morphine to relieve pain.

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Recent literature on Butesin Picrate Ointment may be obtained by writing the Abbott Laboratories, North Chicago, Illinois.

—o—

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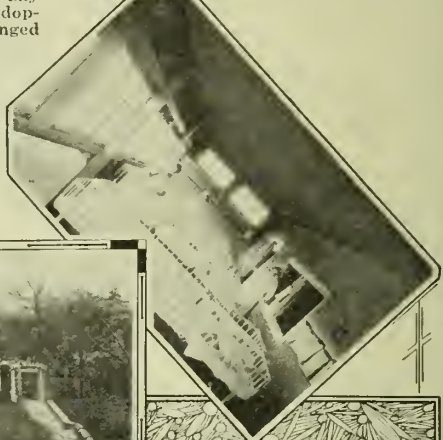
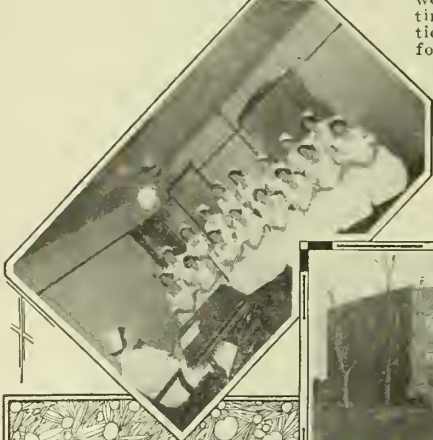
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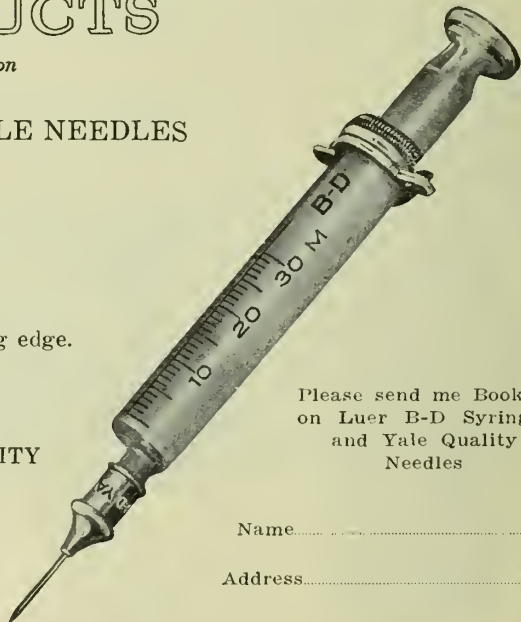
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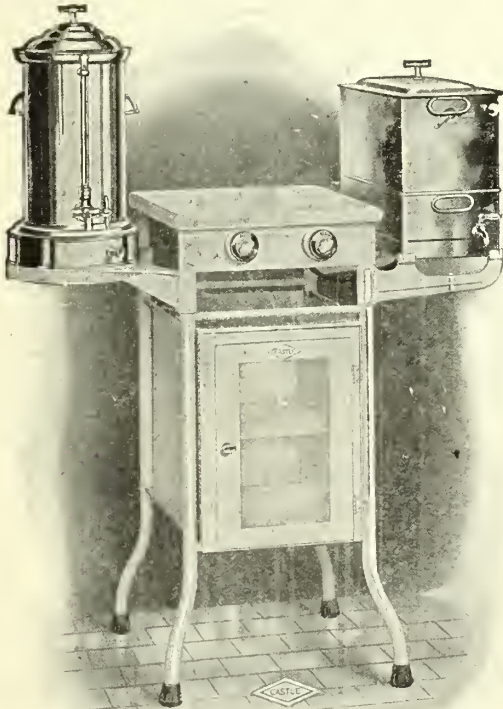
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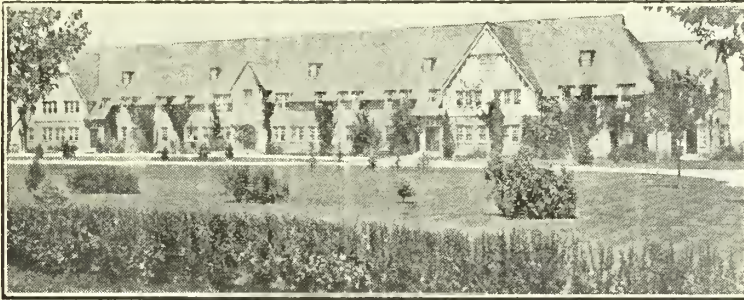
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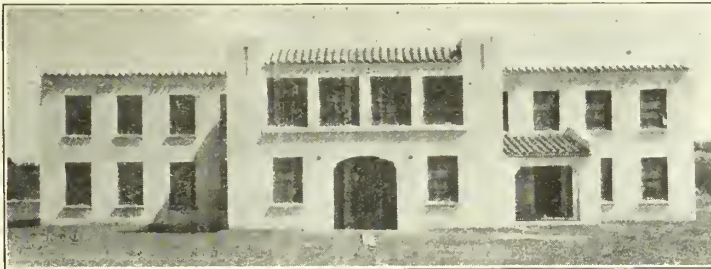
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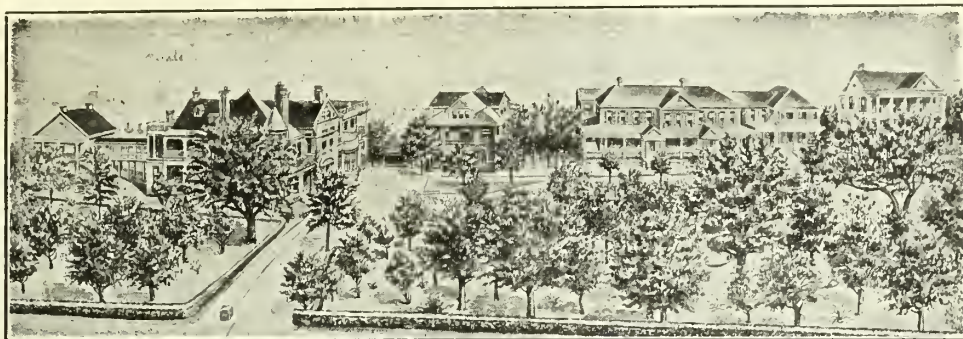
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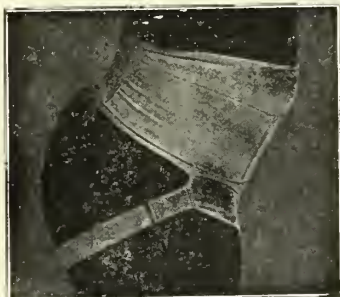
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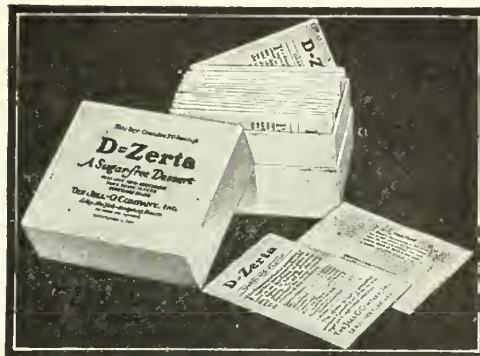
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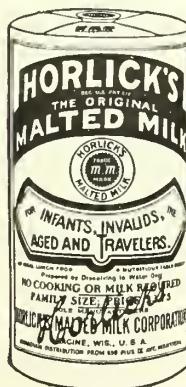
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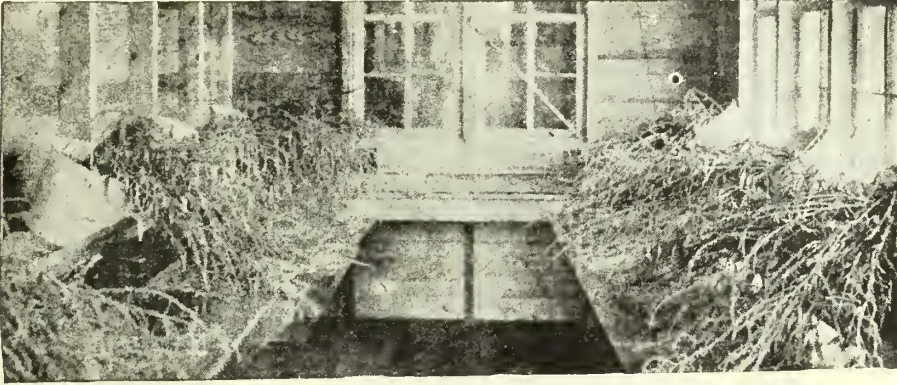
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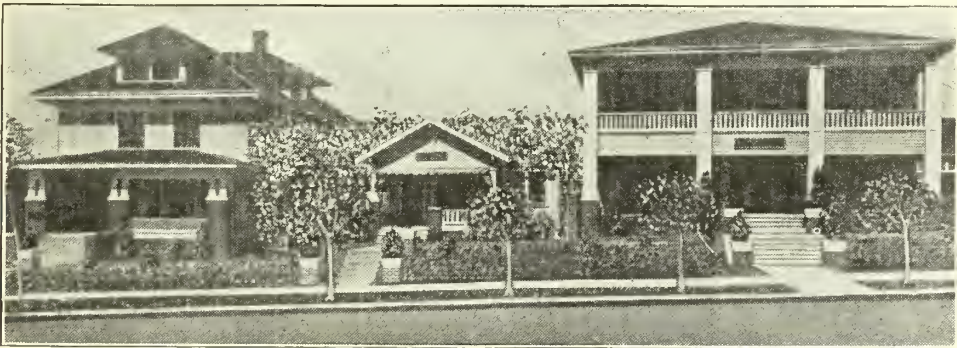
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-in all kinds of dieting

In the treatment of diabetes, tuberculosis, and other diseases where diet plays a vital part, Knox Gelatine is of great value, not only because of its own food value, but because it provides appetizing variety to the most tiresome diet.

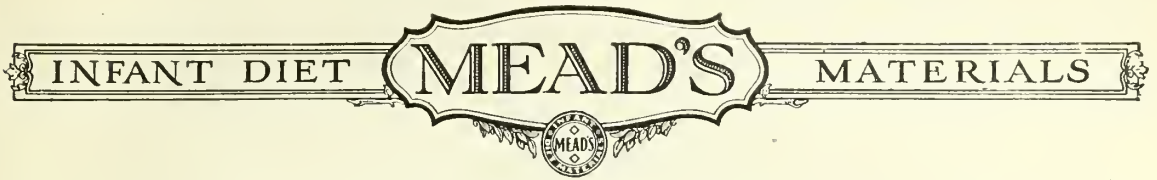
From raw material to finished product Knox Sparkling Gelatine is constantly under chemical and bacteriological control, and is never touched by hand while in process of manufacture.

**KNOX
SPARKLING
GELATINE**

"The Highest Quality for Health"

So important is pure, unflavored gelatine in dieting work that we have had prepared by a noted dietetic authority a booklet showing the many ways Knox Sparkling Gelatine may be used to make the monotonous diets constantly attractive and more nourishing. Send for it ("Varying the Monotony of Liquid and Soft Diets"). And — may we also send you our other booklets and laboratory reports, covering diabetes, milk modification, and other important phases in gelatine's value to medicine? Write to

KNOX GELATINE LABORATORIES
435 Knox Avenue Johnstown, N. Y.



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has been successfully used for years in the feeding of infants deprived of their natural food.

It is the carbohydrate of choice because it can be assimilated by the infant in greater amounts than other sugars.

It requires the least amount of energy on the part of the infant to assimilate it.

It is less likely to cause diarrhea than other forms of carbohydrate.

It produces a quicker gain in weight than any other form of carbohydrate.

Where certified milk or milk of equal quality cannot be obtained, MEAD'S POWDERED WHOLE MILK reliquefied by the addition of 4 level tablespoonfuls or one ounce of the dry powder to 7 ounces of sterile water may be substituted for the liquid milk called for in the formula.

The Mead Johnson Policy

MEAD'S Infant Diet Materials are advertised only to physicians. No feeding directions accompany trade packages. Information in regard to feeding is supplied to the mother by written instructions from her doctor, who changes the feedings from time to time to meet the nutritional requirements of the growing infant.

Literature furnished only to physicians.

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EVANSVILLE, INDIANA, U.S.A.

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Double U. S. P. X. Strength. For surgical cases and in general
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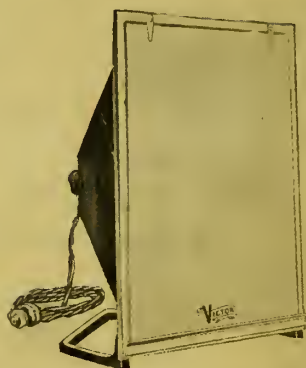
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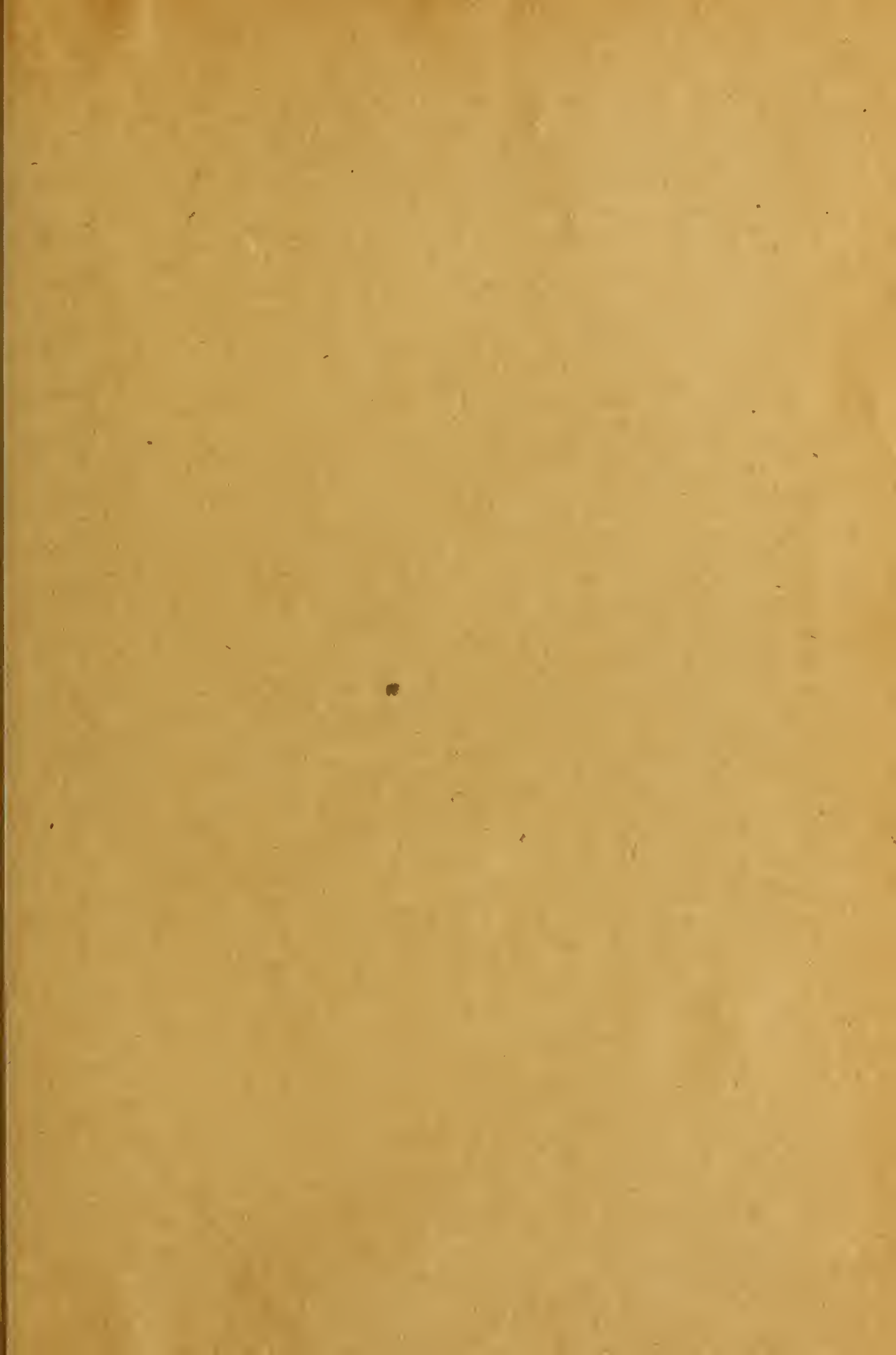
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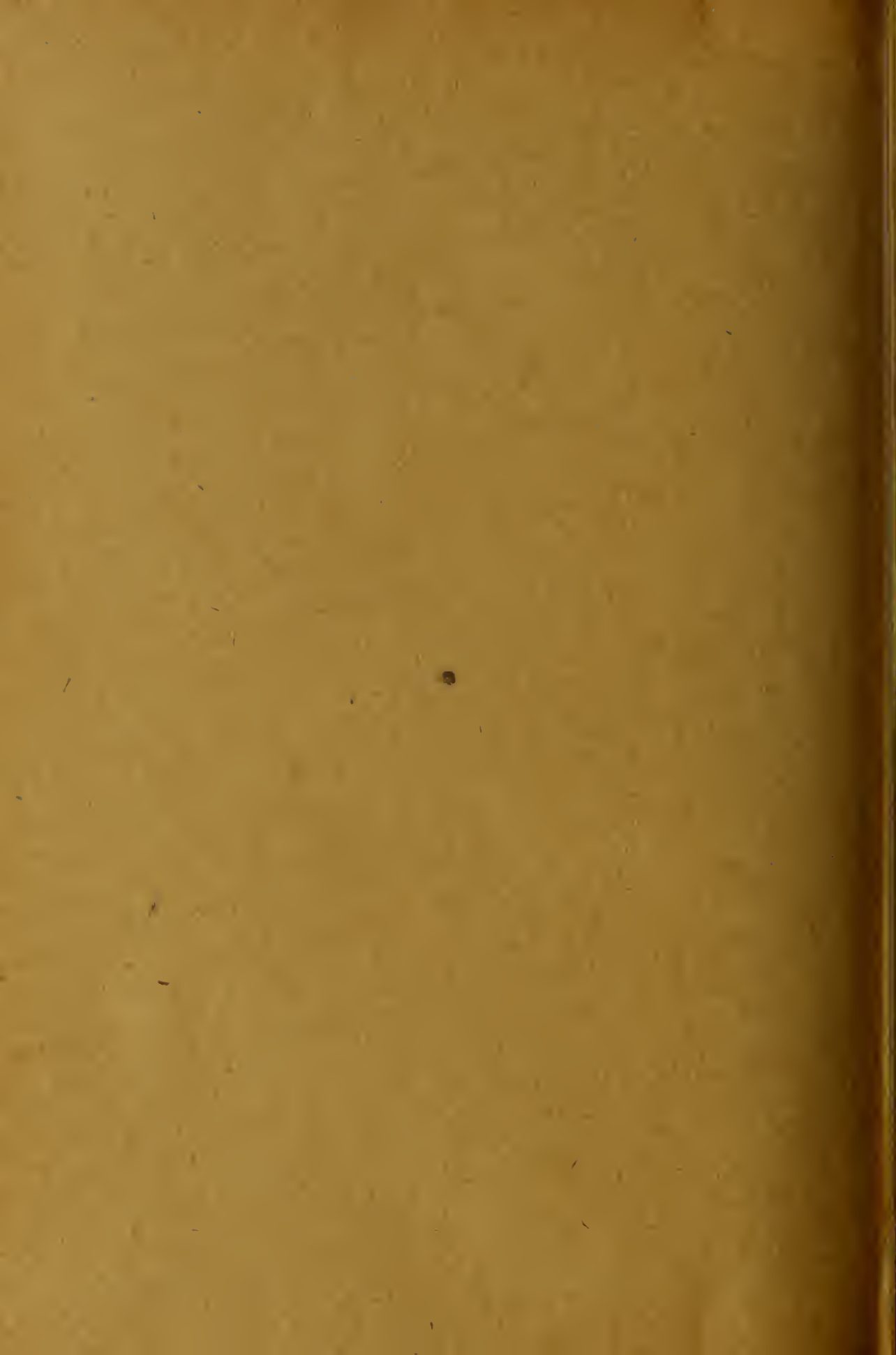
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